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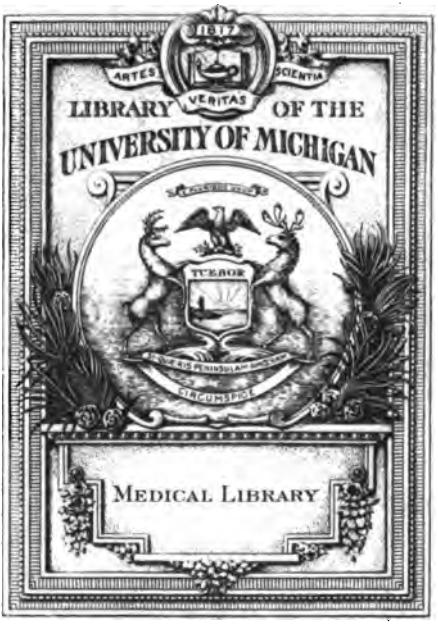

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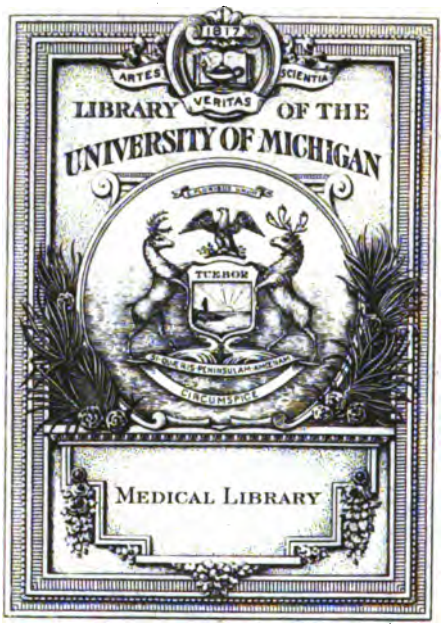

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NOTICES OF THIS WORK.

From 'The Medical Examiner,' Philadelphia, July, 1850.

Another valuable contribution to a knowledge of the Medical Topography and Diseases of the South and West.—The design and general character of these Reports are highly creditable to their editor, Dr. Fenner. He proposes to fill in detail the great outlines so ably sketched by Dr Drake, in the Work noticed in our last number; and for this purpose he has appealed to his medical brethren in that region, with a success of which the present volume furnishes a gratifying proof. For vague generalities, speculations, and not seldom declamation, too, are now to be substituted detailed descriptions of the acquired facts, and their legitimate deductions expressed in plain prose. If figures are introduced, they will be those of arithmetical and algebraical formulæ rather than of poetry.

* * * The pains which we have taken to exhibit to our readers the chief features and most interesting details of the first volume of Dr. Fenner's *Southern Reports*, are the best proof of our desire to see a second volume next year. It would be a source of pleasing reflection to us, if we could believe, that the language of praise and occasional criticisms which we have uttered, will encourage him in his future endeavors, and furnish him with hints to make his subsequent course more easy.

From 'De Bow's Review,' New Orleans, September, 1850.

* * * We are always glad to see a *southern* book; and, in this instance, the pleasure is enhanced by the fact that the author is one of our own fellow citizens and immediate *personal* friends, and we have watched, from their very beginning, the progress of his labors, in a field struck out by himself and almost entirely new, his restless energies and assiduities, his vigils by night, his enthusiasm and hopefulness, we have wished him, from our heart, success; and now, that the labor of the day is over, we would add, to those well wishes, congratulations the most genuine and unaffected.

The aim of Dr. Fenner, as we understand it in the volume before us, and which will be continued *annually*, should sufficient encouragement be given—an event we sincerely trust will occur—is threefold:

1. To induce a more close and rigid study of the diseases which are peculiar to the South, and which can seldom be understood by those who are not familiarly acquainted with the meteorological, topographical and hydrographical relations and conditions which subsist among us. The whole subject must be studied together, if studied thoroughly.

2. To provoke habits of greater research and industry among southern physicians, and afford a medium of communicating with each other, upon the highest branches of the profession, less ephemeral than the magazines of the day, and to stimulate these professional intercommunications.

3. To furnish the statesman, planter, or citizen, with full statistics of the mortality of different sections, the tendencies to peculiar diseases, the probable and possible health ameliorations, and those general mortuary facts which come now to occupy an important place in the studies of political economists, municipal authorities, planters and legislators.

The plan is a wise and elevated one, and the question presents itself, Has the execution corresponded?

From 'The American Journal of the Medical Sciences,' Philad., July, 1850.

We recommend the Work of Dr. Fenner to the notice of the physicians of the United States—as well those located in the northern, eastern, and western, as in the southern sections of the Union. As a collection of valuable contributions on subjects of immense importance to all—whether these contributions were originally prepared for the Work itself, or appeared originally in one or other of the medical journals of the day—it is deserving of an attentive perusal upon the part of all who desire information in relation to the several forms and locations of the leading diseases endemic to our country, while, from its pages, facts and observations will be derived calculated to throw light upon the etiology, character, and treatment of those affections which prevail in other portions of the Union than that comprised within the limits of the southern States.

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From 'The Western Lancet,' Cincinnati, August, 1850.

The appearance of this Work constitutes an era in the medical history of the South. The object, as sufficiently indicated by its title, is to collect and preserve, from year to year, the facts connected with Southern diseases, in detail, by numerous physicians scattered over the region above named. The Editor, in his introductory address, says, 'The motive that prompted the present undertaking, was a desire to stimulate the physicians of the South to a more zealous and energetic prosecution of the noble science to which they have devoted their lives, and its object, to establish a cheap and substantial medium of publication, through which their labors may be united, interchanged among each other, and handed down to posterity.' He makes also an eloquent appeal to his southern brethren to assist in this undertaking, by 'coming forward annually and contributing what they can to the general fund of useful medical knowledge;' and we are mistaken in the profession of the South, if this appeal does not meet with a hearty response.

* * * To suppose for one moment that a single physician in the South, who has an interest in seeing his profession advanced, will not patronize this enterprize, is certainly paying a poor compliment to our southern brethren. The work will be found to be interesting to the profession generally, whether situated north or south, in this or foreign countries.

From 'The Charleston Medical Journal and Review, July, 1850.'

This vast undertaking, comprising, as it does, the entire medical history of not less than ten States, deserves, as we hope that it will obtain —from the southern part of the profession, at least — the warmest support: and if the author receives the encouragement and assistance to which he is fully entitled, he will do much to improve the sanitory condition of this portion of the Union, and to give to those abroad a correct impression of its health, and the degree of longevity of its population. But little has yet been done in the southern States towards improving the health of their inhabitants, or in even seeking the causes which have led to a higher rate of mortality, or a shorter duration of life, among them, than exists in other and more favored parts of the world. Much more unfavorable impressions, however, exist on this subject than is really the case, and one of the benefits likely to result from Dr. Fenner's publications,— if they are continued,— will be a correction of public sentiment abroad on this point.

From 'The New York Journal of Medicine,' July, 1850.

This Work, which we announced to our rea ers in the last number, as being in press, is no before us, and right glad are we to see it. comprises, as its title clearly indicates, a ve interesting and important class of subjects. Th medical topography and diseases of the Southe States has, for more than half a century pas been sadly neglected, as will be clearly seen b examining the periodical literature of the cou try, in which is recorded nearly all that has bee written on these subjects. When we remembe the fact that — in the language of Dr. Fenner, i his introductory address — 'a century ago, th South could boast of distinguished physician who took the lead in the cultivation of medica science in America,' is it not surprising tha there should since have existed, until within th last ten years, so much inactivity and indifferenc in this department of Medicine? Seeing. then a necessity for a more thorough and extende acquaintance with the history of diseases in tha portion of our country, we hail with pleasur this attempt to stimulate the physicians of th South to a more zealous and energetic prosecu tion of the noble science to which they hav devoted their lives.

* * * In the preparation of this interestin volume, its able editor has evinced great pers verance and zeal in the arduous and praiseworth undertaking in which he is engaged; and w shall be disappointed if it does not receive th approbation of the profession, and especially the southern portion of it, for whose literary an practical advancement it was conceived an brought forth. The general typographical ap pearance of the work is good.

From 'The Baltimore American.'

This Work will be continued annually; and glance at the titles of the various interestin subjects noticed in it, will at once give th reader an idea of the vast field from which i contents are gathered. The devastating disease which, from time to time, break out in portion of the southern country, are here described b intelligent observers, and the best modes o cure; and what is of more importance, the mo effectual means of prevention are accurately pointed out. We have not the space to ente minutely into a description of the varied matt of which this interesting volume is made up and must content ourselves with recommendin it to the notice of the profession, as a valuabl compound of important information.

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From the 'Buffalo Medical Journal,' July, 1850.

In commenting on the *Prospectus*, in a former number of this Journal, we expressed our belief that the undertaking was worthy of all praise, and that the well-known ability of Dr. Fenner, as an observer, thinker, and writer, together with his experience as a medical editor, afforded an amply sufficient guaranty that the duty he proposed to himself would be faithfully and satisfactorily performed. It contains little or nothing that is valueless, and much that must possess great practical interest for the medical profession of the South. For the latter it is especially designed, but northern readers, who should desire to know something of the peculiarities of southern diseases, and their relations to distinctive features of the South involved in Etiology, will do well to patronise Dr. Fenner's Work. As another consideration, which we trust many of our readers will duly appreciate, we may suggest that an effort of this kind, to develope and diffuse medical knowledge, and to arouse increased exertion by professional brethren in behalf of science and humanity, should not be regarded with indifference, and treated with neglect, even by those who do not directly participate in the benefits resulting therefrom. To issue a volume of this kind must require a considerable pecuniary outlay, and while we know that Dr. Fenner would not thank us for intimating a wish that his plan might prove a profitable speculation, we may be permitted to express a hope that, for the honor of the profession, the circulation of the Work shall be sufficient to reimburse the cost of publication. In view of the consideration just suggested, the 'Southern Medical Reports' has claims upon those of our northern brethren who are desirous that useful laborers in the fields (not vineyards) of medical science, if they do not receive a reward, shall, at least, not be exposed to injustice; and who are ready to welcome and encourage every truly valuable addition to our native medical literature.

Resolution proposed to the Alabama State Medical Association, by Dr. W. H. Anderson, of Mobile.

Resolved, That the Alabama State Medical Association highly appreciate the motives which induced the able editor of the 'Southern Medical Reports' to undertake his task; and being well satisfied of the practical utility of the Work, and the ability with which it is edited, they cordially recommend it to the medical faculty of the State, as a standard volume for every medical library.

This resolution was adopted unanimously.

From 'The New-Orleans Medical and Surgical Journal,' July, 1850.

The editor has devoted his time and talents to the preparation of these reports, with a singleness of purpose, and an assiduity, worthy of the highest commendation.

The 'Reports' embrace much valuable information on the climate, diseases, etc., of the South.

Extract from the Proceedings of the American Medical Association, at its Session in Cincinnati, May, 1850.

Dr. Watson, of New York, presented the following resolution, which was adopted:

Resolved, That Dr. Fenner's projected annual publication on the diseases and statistics of the southern portion of the United States, meets with the cordial approbation of the American Medical Association and is worthy of the active support and coöperation of the profession.

Extract from the Proceedings of the Louisiana State Medical Society, New Orleans, March 15, 1851.

1. *Resolved*, That the Louisiana State Medical Society do cordially recommend to the patronage of the profession, Dr. Fenner's 'Southern Medical Reports.'

2. *Resolved*, That the medical profession of the State, and the South generally, are deeply indebted to Dr. Fenner for the ability and industry with which he has labored for their progress, in the publication of his volume of 'Southern Medical Reports.'

These resolutions were unanimously adopted.

From 'The Republican Banner,' Nashville, Tenn.

The design of this Work, as every reflecting physician must perceive, is most excellent. It occupies a corner in the field of our medical literature which greatly needed filling, being a permanent record of original and highly important observations. Even if this design were only imperfectly executed, the Work ought to receive the hearty patronage and coöperation of all southern physicians. But that Dr. Fenner has ably discharged the duties of his post, is amply testified by the many favorable notices of his labors, which have appeared in our medical journals; and especially by the *emphatic* approbation of his Work by the American Association of Physicians, at their last meeting in Cincinnati.

No *intelligent*, *inquiring* physician in the South-west should consider his library complete without a copy of these Reports. We sincerely hope that the next volume may bear evidence that the physicians of our large and populous State are not indifferent to this opportunity of having such good papers as they may have the industry to prepare, permanently preserved, and widely circulated.

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Letter from Mr. CHARLES GAYARRE, Secretary of the State of Louisiana.

BATON ROUGE, *Sept.* 9, 1850.

Dear Sir:—Lately, on my coming back to Baton Rouge, from which I had been absent a few days, for the benefit of my health, I was highly gratified with the reception of the 'Southern Medical Reports,' edited by you, and a copy of which you have so kindly presented to me. Although no physician, I have perused the Work with much interest. I hope that it will be continued by you, many years to come, and I have no doubt but that it will form an extremely precious statistical record of the diseases prevailing in our southern climate, of the various modifications which they may assume, according to circumstances, and of the modes of treatment found most available at different times. It will convey much useful knowledge, and elicit information from sources hitherto not explored. On my return to New Orleans, in October, I intend to procure a copy of this valuable Work for the State library. Please to accept my acknowledgments, and the assurance of my distinguished consideration.

Very truly, yours,

CHARLES GAYARRE.

Dr. E. D. FENNER, *New Orleans.*

From the 'Southern Medical and Surgical Journal,' Augusta, Ga., July, 1850.

We have now given our readers a brief and imperfect outline of Dr. Fenner's Work, but sufficient, we hope, to impress them favorably with its character. It is a new undertaking, and has cost the Editor much labor and expense, which we trust will not go unrewarded. We hope our readers will manifest their appreciation of Dr. Fenner's efforts in the cause of medical science by purchasing a copy of his Work, and giving to it a careful perusal. By so doing, they will reap profit for themselves, and will enable him to prosecute his laudable undertaking with energy and success. Upon the patronage which the work receives its continuance depends.

Letter from Dr. T. G. MOWER, Surgeon U. S. A.

NEW YORK, *June* 3, 1850.

Dear Sir:—I cannot forego the pleasure of congratulating you, before your departure, on the publication of the 'Southern Medical Reports,' and expressing the hope and belief that this will prove the auspicious commencement of a series of similar contributions, calculated to supply a want so long and so greatly felt in the Southern sections of our country. It is there my own observation has satisfied me that disease is materially modified by climatic influences, and calls for a corresponding application of therapeutic means. The few pages that my engagements have permitted me to look over, have been read with interest and instruction.

With best wishes for the successful prosecution of your labors,

I remain, faithfully, yours,

T. G. MOWER,
Surgeon, U. S. A.

E. D. FENNER, M.D.

Extract from the Proceedings of the American Medical Association, meeting at Charleston, S. C., May, 1851.

Dr. F. A. Ramsey, of Tennessee, offered the following resolution, which was adopted:

'*Resolved*, That the efforts of Dr. Fenner to place on a durable basis, an annual publication embracing medical reports from the whole Southern portion of the Union, merit the commendation of this Association, and should receive solid support from American physicians.'

From the 'North-Western Medical and Surgical Journal,' March, 1851.

* * * We have now glanced over the contents of this first volume of the Southern Medical Reports, and though we have found some fault with the character of some of the papers contained therein, and might justly have found more with the style of others, yet we deem it a most valuable volume, and we commend the enterprise of its able Editor to the patronage of the whole profession.

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CONSISTING OF

GENERAL AND SPECIAL REPORTS

ON THE

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TO BE PUBLISHED ANNUALLY.

EDITED BY

E. D. FENNER, M.D., OF NEW ORLEANS;

Member of the American Medical Association; Member of the Physico-Med. Soc. of N. O., and of the Louisiana State Med. Soc.; Cor. Mem. of the State Med. Soc. of Mississippi, the Med. Soc. of Montgomery, Ala., the Attakapas Med. Soc., and of the New York Academy of Medicine.

——— sicut
Parvula (nam exemplo est) magni formica laboris
Ore trahit quodcunque potest, atque addit acervo,
Quem struit, haud ignara ac non incauta futuri.—Hor.

VOLUME II, 1850.

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R. H. COOLIDGE, Surg. U. S. A. ..... *Fort Gibson*.... *Ark.*
THOMAS M. LOGAN ..... *Sacramento City, Cal.*

A REMARK TO CORRESPONDENTS.

We have received several communications in an unfinished state, and have thought proper to withhold them.

We respectfully solicit reports and remarkable cases from the physicians of the South, but entreat our correspondents to write on but one side of their paper, and as plainly as possible.

* The articles furnished by these gentlemen were not written expressly for this Work.

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PREFACE.

In presenting to the profession a second volume of Southern Medical Reports, the editor begs leave to say he has been more strongly influenced by a desire to promote the cultivation of his profession in this region, than by any expectation of pecuniary reward. The first volume was brought out at a heavy expense, (not to mention the arduous mental labor it required,) and it was left to the medical profession of the country to say whether the Work should be continued. It is but candid to confess, it has not met with the ready sale that was anticipated; yet the highly complimentary notices that have appeared in all the Medical Journals and Associations, as well as those received from numerous and most respectable private sources, have induced the editor to venture upon one more volume. Indeed, this seemed to be required, to give the Work a fair experiment. And here is the volume; we trust, fully equal to the first in all respects, and superior in many. The matter is of a more diversified character, comes from a greater number of States, and displays the abilities of many new contributors. Reports are presented from *eight different States*, including California; which, although north of our prescribed boundary, *isothermally* considered, is strictly a Southern State; as will be shown by the interesting letters of Dr. Logan.

The principal topics of the first volume, viz.:—Endemic fevers, epidemic cholera and colic, medical topography and meteorology, are presented under somewhat different views in this; whilst

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several new subjects, such as the peculiarities of the negro race, the diseases of California, sanitary measures and vital statistics, are introduced and discussed with much ability.

In apology for the large space allotted to the consideration of *Dengue or Break-bone fever*, in this volume, it is necessary to state that in a work of this kind, some one or two diseases, of greatest prevalence, may be expected to attract chief attention each year. They are *the leading diseases of the year*, and are entitled to a prominent place in the medical history of the times.

We have been somewhat disappointed in our expectations of valuable matter from the late United States census. In respect to mortuary statistics, we apprehend that much error will be found to exist as to the number of deaths that occurred during the time specified in the census, *i. e.*, from June, 1849, to June, 1850. Yet, however erroneous on this point, it will be useful for comparison; as it may be presumed to be uniform throughout the Union. To point out a single error—according to the census, the number of deaths reported for the Eastern District of Louisiana, consisting of *twenty-one parishes and including the cities of New Orleans and Lafayette*, was only 7,499, in a population of 304,096; whilst in the cities of New Orleans and Lafayette alone, having a population of about 130,000, the deaths for the last year, (1850), as published by the Board of Health and Dr. Simonds, were 8,086, and the year before, 9,862. Judging from the great error committed in this instance, we can but suppose that the deaths reported in the census are far short of the truth, and therefore are not to be relied on for statistical purposes. We may remark, however, that the census returns of deaths will probably be found much more correct for the country, where residence is generally permanent, than in cities, where removals are more frequent.

The important papers of Dr. Barton and Dr. Simonds cannot fail to interest the reader, and, we trust, will serve to awaken this

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community to a proper sense of the value of sanitary measures. The authors appear to have used the best data that could be obtained, and are alone responsible for the deductions they present. Dr. Barton requests us to say, that his ratio of mortality for New Orleans and Lafayette is based on the official mortuary tables of the Board of Health, and not on the returns of the U. S. census, which are known to be very defective in these cities. We regret that, for want of space, we have been compelled to omit a considerable portion of each of these papers. Dr. Barton's report was accompanied by several beautiful charts, which we are unable to publish on account of the heavy expense.

We regret having again to omit a considerable amount of matter that cost us a good deal of trouble to prepare.

We sincerely hope the reports here presented may prove satisfactory to the reader; and crave the indulgence of the critic in behalf of a work so recently begun, and composed as it is by unpracticed writers, who have no other object or desire than to promote the interests of science and humanity by furnishing plain, unvarnished details of facts. When we look around us and witness the wonderful progress in southern medical literature that has been made since 1844, the time we commenced our editorial career, we feel highly gratified at the result. New medical journals are continually springing up in the Southern States, and new writers emerging from the obscurity in which they were hidden — the general fund of medical knowledge is annually increasing and diffusing itself over the most remote and secluded portions of our wide and growing Republic. For the last eight years we have devoted our best energies to the promotion of medical science and literature in the Southern States; and however humble our own poor efforts have been, we are gratified to think they may have done some good by inciting abler pens to action. We see around us thousands upon thousands sinking into premature graves, whilst the brief span of existence allotted to

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man is continually embittered by sickness and pain. Science and experience have alike shown that the principal causes of such disasters can be removed, and their direful effects thereby avoided. 'How much, then, (to use the language of another), should the subject engage, not only the serious attention of the community at large, but also the active and persevering labors of the members of that noble profession, the great object and end of whose mission is to save life, to mitigate suffering, and to ameliorate the condition of their fellow men.'

The importance of the literature of our profession is surely too well known to need any commendation from us at this time. Every reflecting physician must know that it is the great *store-house* of our actual knowledge — the source whence we have derived all our information of the *past*, the repository of our own achievements, and the only medium through which their benefits may be extended to those who will succeed us on the stage of life. The press is the great lever of modern improvement; and no profession, art or science can progress rapidly without its assistance. The literature of a profession is the best index to its actual condition — it is, in fact, the expression of its existing state; and that profession, whose graduated members are not both qualified and willing to record the most important occurrences that fall under their observation, is not what it should be. Under a proper *esprit du corps*, every member must feel a deep interest in the honor and dignity of his calling, and will always be disposed to contribute what he can towards its advancement. It is true that much is annually published, of but little value; but it is equally true that many men of superior skill and judgment keep to themselves knowledge which, if spread before the world, would prolong the lives and alleviate the sufferings of their fellow-beings far beyond the reach of their personal exertions. Under these impressions, we have encouraged others to write, and done what we could for

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medical literature in this region; and whether we continue our labors or not, we heartily wish success to those who devote attention to this important object.

It has been intimated from a friendly quarter that our Work is 'not sufficiently practical for this utilitarian age.' If faithful records of the origin, progress, nature, symptoms and treatment of endemic and epidemic diseases, with suggestions of the best means of preventing them, do not constitute the elements of *practical utility*, we would be glad to know what does: and such are the objects and aim of this Work. It is designed to be useful to the planter, merchant, lawyer, politician and heads of families generally, as well as to him whose special attention is devoted to the treatment of disease in all its various forms. Every effort will be made to teach the important lesson, that it is not only the *duty*, but the *interest* of communities to promote such investigations as tend to discover the causes of disease, and the best methods of counteracting their direful effects.

The increased amount of matter in this volume above the last, with the reduction in price, will, we trust, make satisfactory amends for dispensing with the binding. Indeed, the cost of publication in this city proves to be so great as to leave us hardly any hope of remuneration. In addition to all these difficulties, we now have reason to fear, contrary to previous expectation, that our work will not be received in the mails without pre-payment of postage, and at a much higher rate than we had expected, under the new postage law. After this statement of the difficulties we have encountered, the profession will be better prepared to appreciate our labors, and will extend us a liberal support, if they desire the work to be continued.

We return our most grateful acknowledgements for the kind and flattering notices bestowed upon our efforts by the medical journals, medical associations, and newspaper press. In this we have found a pleasing reward for toils and sacrifices which but

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few are acquainted with, and will continue our labors as well as our limited means will allow.

Editors of medical and literary journals who have honored us with their exchanges will please accept our sincere thanks, and likewise forgive our apparent neglect of their valuable works.

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SOUTHERN MEDICAL REPORTS.

REPORTS FROM LOUISIANA.

ARTICLE I.

REPORT ON THE GENERAL ASPECT OF THE WEATHER, THE CONDITION OF THE STREETS, THE STAGE OF THE RIVER, AND THE PRINCIPAL DISEASES THAT PREVAILED IN THE CITY OF NEW ORLEANS DURING THE YEAR 1850 —IN THE FORM OF A MONTHLY JOURNAL.

BY THE EDITOR.

Having, in my first volume, given a general account of the locality and climate of New Orleans, and noted the principal points of interest to the medical inquirer — such as the plan of the streets and system of drainage, the water-works, gas-works, levees, markets, cemeteries, privies, etc.,—I shall, on the present occasion, confine myself to a brief notice of the objects specified in the above title. It is, in fact, a journal of observations taken down at the *time of occurrence*, which I deem the proper time for noting medical observations. I deem the *memory* too treacherous to be relied on, even for a month: hence, my custom is, to keep a *diary of particulars*, and at the end of each month to carefully sum them all up in the form here presented. I can think of no better plan of forming a faithful record of passing events; and if I should be spared to continue it many years, I trust I shall amass a fund of practical information that will be of some value to those who are to succeed me on the stage of life if not to the present generation. Medicine can never make much progress as a science, till we bring ourselves down to the drudgery of carefully noting our observations at the time of occurrence. It is vain for any man, whatever may be his talents, who waits for the leisure that, sooner or later, follows the preva-

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lence of an epidemic, to attempt to sit down, and deliberately record all the important particulars he has observed respecting the state of the weather, the diversified symptoms of disease, and the effects of remedies. Labor as he may, he can then make up nothing but a mass of generalities, which will convey but a faint idea of all he has witnessed. This has, unfortunately, been too often the method resorted to for increasing our medical knowledge. The Father of Medicine sat us a better example, in the minute details of his cases and observations which have been handed down to us from that remote period; and it is much to be regretted that he has not been more closely followed in this respect during the long lapse of intervening time.

The memoranda which follow are brief, and of a general character; whilst the most important diseases that occurred, such as cerebro-spinal meningitis, cholera, fevers, and colic, will be the subjects of special reports.

We are indebted to Dr. E. H. Barton, for the abstract from his carefully-kept meteorological register that closes this report. I thought it better to place it there at one view, than to give it in detached parcels at the end of each month. I regret that I cannot make room for the entire register. The few remarks I make on the general aspect of the weather in each month will, I trust, be deemed appropriate; as, also, those respecting the mortality. The tables appended to the Annual Report of the Board of Health, will present the mortality of the city in every desirable view. I will now proceed with my Journal.

JANUARY.

This has really been an extraordinary month. We had a few cool spells, but hardly cold enough for frost. For the most part, the weather was not unsuitable to March. There was more or less rain on nine days — sometimes heavy rains. Judging from the employment of physicians, we should say it was a remarkably healthy month: we hardly ever knew less to be done in private practice. The prevalent diseases were, cholera, diarrhœa, dysentery, intermittent fever, bronchitis, pneumonia, rheumatism, &c. There were also some cases of typhus and typhoid fever. Sporadic cases of cholera were to

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be seen about the city all the month. In almost every instance, the disease was very mild in its attack, appearing to be nothing but an ordinary diarrhœa: but if not arrested, it soon led to collapse and death. There were ninety-eight deaths from cholera at the Charity Hospital during this month. Most of the cases were in a state of collapse when admitted; consequently, little could be done for them. We saw some half-a-dozen cases in private practice. There were some remarkable instances of the prevalence of this disease in an epidemic form on board of steamboats, and on plantations. We were informed that the steamer 'Dove,' on a trip up the Ouachita river, lost thirty or forty passengers. Some of the ships coming from Europe suffered severely on the voyage.

The arrivals by sea from abroad have been numerous, and some of those bringing emigrants suffered considerably from ship or typhus fever. The fevers of the month, though principally intermittent in the beginning, have displayed an evident typhoid tendency. We saw, in a negro-yard on Gravier street, some severe cases of cerebro-spinal meningitis. The brain symptoms were very violent, and in some cases petechiæ and echymoses were seen. Delirium was a constant attendant, and in one case there was temporary paralysis in the arm.

We had two or three pretty well-marked cases of yellow fever in the Charity Hospital: one in the pay ward, under the care of the house surgeon; another came into our own ward. In relation to the first, we abstract the following from the books of the hospita

'Case 1.—W.W. Young, a Scotch sailor, aged 22 years; last from Liverpool; in New Orleans three weeks; sick four days; entered hospital on the 8th—died on the 14th January.

'Case 2.—J. Cranston, Irishman, aged 21; has resided in New Orleans two years; entered hospital December 28th; then sick four days; was discharged, cured, on the 13th January.'—This man had hemorrhage from the nose and gums, and became quite yellow. We think these cases were undoubtedly yellow fever. We also saw some cases of jaundice.

Cases that had entered the hospital for other complaints contracted typhus very readily. There were a good many cases of

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cholera contracted in the house by patients who had entered for other complaints. Three or four occurred on one night in the surgical ward, although no recent case had been brought near them. The cholera cases admitted were taken to the floor above. We are not surprised at seeing yellow fever, as the weather has been so warm and damp.

The streets have been in a wretched condition — very muddy; and the pavements broken in various places. The unpaved streets are almost impassable.

The river has been constantly rising ever since November last, and is now (31st January) only about eighteen inches below the highest stage of last year. It is still rising, and we have every prospect of a general inundation. Crevasses have already taken place at sundry places above — a very serious one at Bonnet Carré, forty miles above the city, and on the same side. The water from this crevasse does not approach the city. On the 18th, our city was thrown into consternation by the announcement of another crevasse at Sauvé's, the same place from which we suffered so severely last year. By prompt and energetic efforts, however, it was soon stopped, and no injury was sustained. This alarm had the happy effect to arouse the energies of our city authorities, and to cause them to complete the new levee which had been ordered for the protection of the city. We have now but little to apprehend from any crevasse above the city; but it begins to be apprehended that the river will rise so high as to pour over our levee. It is certainly higher now than was ever known before at this season.

FEBRUARY.

During this month, we have had a little wintry weather; but, on the whole, it has been one of the mildest winters ever experienced in New Orleans. The weather turned cold on the 3d instant, and continued so, with some variations, till the 23d, from which time it was quite warm, and vegetation put forth considerably. On the 5th, the thermometer was down to 32° in the open air, and ice was seen in the gutters. After this, there were several frosts. There was more or less rain upon six days — one or two heavy rains.

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There was more sickness in this month than the last. The prevalent diseases were, cholera, dysentery, diarrhœa, intermittent, remittent, and typhus fever, small-pox, measles, pneumonia, bronchitis, catarrhs, and cerebro-spinal meningitis. Cholera became quite scarce toward the last of the month. But few cases of typhus were seen out of the Charity Hospital. Small-pox was much talked about, but there was not much seen. I saw several cases of varioloid.

The most remarkable disease of the month was cerebro-spinal meningitis; and it so happened, that more cases fell to my lot than to all the other physicians together. During the last days of January, I was called to a slave depôt on Gravier street, where I met with some violent cases of sickness, which I at first took to be typhus; but in a short time I became convinced that it was the cerebral affection just mentionnd. In the course of two or three weeks, I saw at least ten cases at this place; also, a violent case on board a steamboat just from Nashville, Tenn., two cases at my own residence, and another at the corner of Bienville and Trémé street; making, in all, some fourteen or fifteen cases. I lost four cases at the slave-yard, but no others. One case terminated fatally in little more than twenty-four hours; the others lingered from nine to fifteen days. All the subjects were robust negro men and women. I saw no case among whites, though several patients presented strange head symptoms. Some of the most violent cases I saw occurred in private practice. Two of these, both stout negro men, were in convulsions when discovered to be sick. They both recovered under the use of free cupping over the mastoids, and large doses of calomel and camphor, aided by sinapisms. So far as my experience goes, this is decidedly the best treatment, if applied early enough; though the disease is sometimes so insidious in its attack, as to escape observation until it has reached the fatal stage. I shall make it the subject of a special report, and therefore will say no more about it at present.

There is another very remarkable occurrence to be recorded in this month: there were three or four pretty well-marked cases of yellow fever seen at the Charity Hospital. The subjects were unacclimated young men, who had been in the city but a

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short time. They presented hot fever, pain in the head and back, yellowness of the skin and eyes, and hemorrhage from the nose. One of them was heavily threatened with black vomit; but they all recovered. One man in my own ward had extensive hemorrhage from the bowels and nose, and was deeply jaundiced. He recovered of these, but sunk two or three weeks afterwards, from diarrhœa. He had lived in the city more than two years, and was acclimated.

We still hear of cholera amongst the plantations on and near the Mississippi river, and on some steamboats.

The streets have generally been in a bad condition—very muddy and very rough.

The river has continued to rise, and is now but little below the high stage of last year. The water has not been permitted to run through the cross streets, either of this city or Lafayette. We learn that at Bayou Sara, and some other points, the water is fully as high as it was last year. At this place, it is about fourteen inches lower. The crevasses at Lacoste's plantation below the city, and at Bonnet Carré above, still remain open. Since the completion of a new levee between this city and Lafayette, we have less apprehension of another overflow. Unless the river recedes considerably before the 1st of June, there will probably be great injury done to the plantations in the valley.

The winter is now over, and has been one of the mildest ever experienced. We shall see what follows.

MARCH.

Like the two last, this has been an extraordinary month—very dry, and, for the most part, very warm; yet, toward the last, setting us back into mid-winter. We had rain on but three days; consequently, the streets became exceedingly dusty.

There was considerably more sickness than in February. Amongst the prominent diseases were, cholera, dysentery: diarrhœa, small-pox, measles, scarlatina, intermittent fever, &c.

The most remarkable occurrence was a decided outbreak of cholera, amounting to a mild epidemic. On the 7th, we observed that there were two or three cases admitted into the Charity Hospital. On the 10th, six cases were admitted, and

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others were seen in private practice. On the 13th, twelve cases were admitted, and there began to be considerable alarm in the city. On the 16th, the Physico-Medical Society held its regular meeting; the members mentioned having seen cases of cholera, and all thought it was decidedly on the increase: suffice it to say, the disease did increase all over the city, till it might properly be termed a mild epidemic. During the week ending the 25th, there were 149 deaths from cholera in the city. On the 26th, there was considerable rain, which was followed by a great change in the weather: it became extremely cold. On the morning of the 28th the thermometer fell to 40° in the open air, and there was ice seen in the gutters near the Charity Hospital. Cholera evidently began to decline on this change of weather, so that, for the week ending on the 5th April, there were only about seventy deaths. All alarm then ceased, and the disease attracted but little attention. During this outbreak of cholera, the most exaggerated reports went abroad through the country, preventing many persons from coming to the city. During the panic, a great many persons left the city. The general aspect of the disease was the same as had been observed from the beginning. It almost invariably commenced with premonitory diarrhœa, which was very easily arrested, if promptly attended to; but if neglected, it seldom failed to lead to a fatal termination. I saw nothing new in its treatment. I met with no case of cerebro-spinal meningitis this month, nor anything else worthy of special notice, except a case of yellow fever, at the Charity Hospital. The following notes were taken from the books:

'Case.—Mary Naughton, Irish, aged 22 years; had been in New Orleans one year; entered the hospital on the 21st March; then sick four days with high fever, pains in the head, back, &c. She died on the 27th, having first presented hemorrhage from the gums and nose, and *black vomit*. I saw the corpse—it was very slightly yellow. This case was in the ward of the house surgeon, and by him pronounced 'yellow fever.'

It will be interesting to observe what is to follow these sporadic cases of yellow fever, occurring in January, February, and March.

The weather, as before stated, was very dry.

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The Board of Health reports 776 deaths during the month, of which 363 died of cholera.

The river was very full; not quite so high *here* as it was last year, but fully as high, or *higher*, at many places above. There are some extensive crevasses. There was considerable apprehension of an overflow.

APRIL.

This month was remarkably cool for the season, and much healthier than the preceding. There was rain upon seven days; for the most part it was quite dusty. As before stated, after the extraordinary change of the weather on the 28th ultimo, the cholera declined very rapidly.

The Board of Health report 454 deaths, from all diseases, during the month, of which 78 died of cholera.

The river continued very high, but no crevasse occurred near enough to affect the city. The immense body of water flowing through the Bonnet Carré crevasse, runs into Lake Ponchartrain, which it has raised to an extraordinary height, and rendered quite turbid. The swamp in the rear of the city is completely inundated.

The streets have been dusty and filthy.

MAY.

The early part of this month was remarkably cool, but the latter very warm. Summer then began in earnest. On the night of the 6th, a light *frost* was observed in New Orleans, which, of course, was much heavier towards the north, causing much injury to the young crops. On the morning of the 8th, we experienced a severe storm, which unroofed several small houses, and injured several steamboats lying at the wharf.

On the 11th, there was a severe hail-storm along the coast and down the bayou Lafourche, which did much injury to the crops, and blew down several sugar-houses. Some of the hail-stones were said to be almost as large as a hen's egg.

It rained here upon six days, but the month may be said to have been dry.

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The health of the city was remarkably good throughout the month, the usual diseases of the season prevailing to but a moderate extent. The Board of Health report 545 deaths, for this city and Lafayette, of which 54 were from cholera, showing a continual decline of this disease. We received intelligence of cholera prevailing to a great extent at Havana; also of a fatal epidemic yellow fever at Rio Janeiro—the first time it was ever known to prevail there.

On the 29th inst., there was a death from yellow fever at the Charity Hospital. The man was just from Vera Cruz—entered the hospital in a hopeless state on the night of the 28th, and died this morning. The disease was not communicated to any person.

Death from chloroform.—During the amputation of a leg at the Charity Hospital, on the 31st instant, a man died under the effects of chloroform. This is the first certain instance of the kind that has happened in this city. A post-mortem examination revealed great effusion on the brain, amounting to serous apoplexy, which may have existed previously, and rendered the use of the chloroform more dangerous.

The river continued up to the highest point. The waters from the Bonnet Carré crevasse continued to flow in immense volume into the Lake, back of the city, raising it about two feet, and also covering the swamp up to the city.

During this month the new law, reörganizing the Board of Health, and including Lafayette, went into operation. This law authorizes the Board to enforce its sanitary ordinances.

JUNE.

This was, for the most part, a hot month. There was no rain till the 10th, when there was a hard shower. It rained again on the 13th, and from this time we may date the recurrence of the customary *rainy season.* There was rain on thirteen days in the month; generally refreshing showers, but upon two or three occasions great quantities fell.

This month may be said to have been *healthy.* Some of the largest practitioners said they never had so little to do. The principal diseases were measles, scarlatina, small-pox, ship fever,

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diarrhœa and intermittent fever. Several vessels arrived with emigrants from Europe, who brought with them ship fever and small-pox. The ship Elizabeth arrived with small-pox on board. There had been sixty or seventy cases during the voyage, of which eighteen died. The Secretary of the Board of Health found five or six cases when the vessel arrived here.

We learn from the editor of the Medical and Surgical Journal, in his remarks on the '*Health of the City*,' in the July number, that measles, whooping cough, and a malignant stomatitis prevailed together among the children of the Female Orphan Asylum, on Camp street. He says—'The two diseases [measles and whooping cough] prevailed simultaneously—the measles attacking those suffering with pertussis, and *vice versa*. It was observed that whooping cough caused the measles to yield, masking its characteristic symptoms.' During the prevalence of these diseases, there were ten or fifteen deaths.

The Board of Health report 455 deaths for the month, in this city and Lafayette, of which 44 died of cholera; so it appears that sporadic cases of this disease continued to occur, though 'few and far between.'

Dr. Hester, of the Medical Journal, remarks, in his editorial before mentioned: 'All our public and private hospitals continue unusually free from disease; and we announce it as at once both remarkable and indicative of the high state of public health, that ten or twelve wards of the Charity Hospital have been recently closed, the number of patients having diminished so rapidly as to vacate a large portion of the building. Such an event, at this season of the year, should not be allowed to pass unnoticed, and we record the fact with much satisfaction.'

The fevers of the month were chiefly intermittent, but there was a notable increase of remittent fever towards the latter part. There were also some cases of acute jaundice and sun-stroke, which are generally seen soon after the appearance of hot weather. I was told by several physicians, that they had met with a number of cases of bilious colic, not resembling lead colic as much as those seen last summer. I was absent from the city during the month, and therefore cannot speak from my own observation.

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The river continued very high, but began to fall towards the last of the month. It did not rise so high at the city, by eighteen or twenty inches, as it did last year, on account of the immense quantity of water discharged through the Bonnet Carré crevasse. It is supposed that one-third of the surplus water of the Mississippi ran off in this direction. There occurred another crevasse at a place called 'Grand Levee,' on the opposite side of the river from this, in Pointe Coupée parish. The water from this crevasse covered an extensive and highly-cultivated portion of the State, doing immense injury to the plantations in Attakapas, St. Mary and other parishes.

The streets have been in a pretty fair condition, though greatly blocked up with building materials. A great number of houses are going up at this time. The business season being over, a great many persons have left the city, traveling off to all parts of the world,—some in the pursuit of pleasure, others of business, and others merely to keep out of the way of yellow fever.

JULY.

This month has been hot, dry and healthy. At least, there has been but little done in private practice, although the mortality of the city and Lafayette has been pretty large. The Board of Health report 504 deaths for the month; of which 13 died of cholera, 68 of fevers, and 15 of sun-stroke. Among the fevers, I find three from yellow fever. One of these died in Lafayette, with black vomit, and was, I learn, an unquestionable case. One died at the Charity Hospital, and with black vomit too, but I do not think it was yellow fever. The subject was a little boy, about seven years of age, who had lived in the city four years, and had yellow fever in 1847. He afterwards enjoyed good health, until a recent attack of the dysentery, for which he was brought to the Charity Hospital, after an illness of four or five days. Nobody thought of pronouncing this yellow fever, until he most unexpectedly threw up *black vomit* and died. The body did not turn yellow after death, nor was there any injection of the eyes or gums. No autopsy was made. I attended on an acclimated lady in the month of April, 1847, who, whilst suffering under a severe dysentery, threw up genuine

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black vomit, and afterwards recovered. That case might, with as much propriety, be called yellow fever as the one before us. Black vomit alone is not pathognomonic of yellow fever. I know nothing of the third case of yellow fever reported by the Board of Health this month. The fevers of the month evidently assumed a more grave type. The intermittents diminished and remittents increased in number. Some of these were attended with jaundice, and were suspected to be yellow fever, but they had no hemorrhagic tendency. The yellowness in these cases was much brighter than that of yellow fever; and, moreover, if I am not mistaken, such cases are as liable to occur among persons who have had yellow fever as any others. Cases of fever with jaundice, or, more properly, acute gastro-duodenitis, are seen at the Charity Hospital every year, in the months of June and July, previous to the appearance of yellow fever. During this month I saw a case at this hospital, which attracted much attention, and was pronounced by some of the physicians to be yellow fever; but it recovered, and finally, I believe, no one contended that it was really yellow fever.

I had, in private practice, two pretty severe cases of bilious remittent, but they readily yielded to local depletion and liberal doses of quinine.

The number of deaths from sun-stroke (15) this month, indicates the high temperature that has prevailed.

The cases of cholera seem to have declined still farther, that is, from forty-four down to thirteen. There were one or more deaths from this disease in every weekly report of the Board of Health. These were very scattering, and attracted no attention. On the 25th, I was called to a desperate case then on the verge of collapse. It was a negro woman who had recently come down the river. She had diarrhœa for several days, but did not let it be known until she was completely prostrated. I found her almost pulseless, and passing large quantities of fluid like rice-water. By means of a combination of calomel, opium, camphor and capsicum, and sinapisms, I succeeded in arresting the disease and saving the patient.

A steamboat came down from St. Louis, where cholera was prevailing epidemically. She had lost several cases on the trip,

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and had two violent cases after reaching this city: one of them died, but the other recovered. The disease did not spread in the least degree, thus affording another instance of its *non-infectious* nature. In December, 1848, the ship Swanton arrived here with cholera on board, and just at that time an epidemic of that disease broke out, and prevailed extensively. This coincidence was sufficient to convince many persons that the *materies morbi* was brought in the Swanton, and spread itself all over our city. But in the summer of 1849, after the epidemic had disappeared, cases of cholera were brought to the city both by ships from Europe and steamboats down the river, without spreading among those who came in contact; and now we have a repetition of the latter fact.

I have heard of a number of cases of colic this summer, though not so many as last year; but one or two have fallen under my observation, and these were traceable to the *drinking of soda-water*, which confirms the conclusion arrived at in my report on colic in my first volume. A gentleman consulted me for a slight colic which he had labored under for several weeks. He was in the habit of drinking one or two glasses of soda-water every day. I directed him to discontinue it, and gave him small doses of the iodide of potass and vinum colchici. He was completely relieved in two days. He had previously taken the iodide and colchicum without relief. Dysentery has prevailed to some extent throughout the month.

I have said the month was hot and dry. Seldom have we witnessed more uniform hot weather, both day and night; and this, too, in spite of the northerly winds which have generally prevailed. We had rain on nine days—very heavy on the 7th, 8th, 10th and 11th. There was no rain from the 11th to the 27th, when there was a light shower, and again on the 31st. Clouds overhung the region most of the month, and on the 26th there was thunder and lightning, but no rain. In short, there has been less rain this July than for four or five years past.

The streets have been generally dry, but not very dusty. Under the vigilance of the Board of Health, they have been kept cleaner than usual.

The river has continued to fall, but is still pretty full. The

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water has ceased to flow through all the unclosed crevasses. We learn that there occurred fourteen crevasses in the parish of Pointe Coupée, letting off an immense quantity of water, which affected more seriously the parishes below and in the rear, than the lands next to the crevasses.

AUGUST.

This month has been most remarkable for its uniform and extraordinary high temperature. A hotter month was probably never experienced in this city. The effects of this continued high heat have been displayed in the occurrence of a great number of cases of *coup de soleil*, or sun-stroke, and the extraordinary prevalence of boils, whitlows and prickly heat. Many children, as well as adults, have suffered greatly from boils. Notwithstanding the extraordinary heat of the month, the winds have been chiefly from the north, and the weather was for the most part dry. There was rain on ten days—hard rains on the 17th, 29th and 30th; dry blows, with thunder and lightning, on the 5th, 8th and 25th —overwhelming the city with dust, without rain.

There was considerably more sickness this month than the last, as will be shown by the greatly increased mortality. The first and third municipalities have suffered much more than the second, the American physicians having but little practice till towards the last of the month, whilst the French have been kept very busy. We note as an extraordinary occurrence, that whilst the Board of Health has reported *sixty-four deaths from yellow fever* during the month, not a single *unquestionable* case has been seen at the Charity Hospital or any of the private hospitals. Heretofore, a good many cases and deaths have generally been seen at the Charity Hospital before any were met with in private practice. The general monthly report of the Charity Hospital for August, is as follows:—

Admitted	2,684
Discharged	2,323
Died	147
Remaining on 1st September . . .	910

These figures are more than fifty per cent. above those of the preceding month. Upon several occasions during the month, the

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number of patients in the hospital was upwards of one thousand. Every variety of fever was to be seen prevailing together, but the predominant type was a remittent, attended by headache and great flushing of the face and redness of the skin generally, but easily controlable. This remittent was evidently more prevalent among females than males. By some physicians it was thought to proceed chiefly from exposure to the sun, but, if this were true, the laboring man should certainly have suffered most. This flushing of the skin was observed in all cases, whether in hospital or private practice. Hemorrhage from the nose was observed in many cases, and was generally followed by happy effects. Hemorrhage from the gums, and slight jaundice, were observed in a few cases. All this will be more fully noticed in my report on fevers.

The Board of Health report 995 deaths, for the five weeks ending on the 3d, 10th, 17th, 24th and 31st. Of these, there died of all fevers, 292; of yellow fever, 64; of affections of the brain, 210; of sun-stroke, included in the latter, 43; of cholera, 8. The week ending on the 3d was the only one that has yet passed without any death from cholera; that ending on the 10th contained 1; on the 17th, 2; on the 24th, 2; on the 31st, 3. I saw one case in private practice, which proceeded mildly, and ran into rice-water stools, when it was arrested and cured. Immediately after this the patient had intermittent fever.

Bilious colic has prevailed to a very considerable extent. I find two deaths from it reported by the Board, though there are twenty from enteritis, many of which, I have reason to believe, were consequences of this disease. Farther investigations have gone strongly to strengthen my former suspicions that this colic, and various affections of the brain and nervous system, which have been observed at the time, all proceed from *lead poisoning*. I have discovered that not only soda-water, but all the hydrant water used in this city, is more or less impregnated with *lead*. It is not generally known that various affections of the brain and nerves may proceed from lead, besides *colic*. I have said that there were 210 deaths this month from affections of the brain, including convulsions, congestion of the brain, cerebritis, menengitis, apoplexy, etc. Now, what proportion of these deaths

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may be attributable to lead poisoning, can only be inferred from the extent of exposure. I shall show, in a special report, that the exposure in this city is far greater than ever was dreamed of.

I saw a man at the Charity Hospital who had passed through violent colic, rheumatic pains and convulsions, followed by paralysis of the arms: he was a hatter, and said he had not been exposed to lead or paint in any way that he knew of, except by cleaning a painter's hat occasionally. He was intemperate, and drank brandy freely, but no soda-water. He said he had been thirsty for a long time, and drank a great deal of water. He drank *hydrant-water*, and unless this contained lead, we could not discover how he had imbibed the poison. Ought not this to be pronounced a case of lead poisoning, whether the lead could be detected or not?

The number of deaths from *coup de soleil*, or sun-stroke, has been very large (43). These, I presume, may be chiefly attributable to the extraordinary heat. Strange to say, horses are liable to this complaint, as well as men. Dr. Elliott, an intelligent and educated farrier who stays at Tattersall's livery stables, told me, that on the 5th of August, an extremely hot day, he was called to eighteen horses that had been struck down by the sun: more than half of them died.

The Board of Health report thirteen deaths from apoplexy, 20 from convulsions, and 21 from sun-stroke, for the week ending the 10th. The fevers of the month have displayed *head symptoms* stronger than any others. Most of the fatal cases terminated in congestion of the brain. Intermittent and congestive fever, dysentery, diarrhœa, etc., have prevailed, as usual. So much for the principal diseases of the month. I shall dilate more fully on the fevers and *lead diseases*, in my special reports.

The fevers of the time have given rise to much inquiry and rumor among the editors of newspapers and citizens generally.

Many inconsiderate persons take upon themselves to deny that there has been any yellow fever in the city during this month, notwithstanding cases have been reported by some of the *most experienced and intelligent physicians of this city and Lafayette*, such as Drs. Lambert, Lewis, Davizac, M. Dowler, and others. The fact is, the prevailing type of remittent fever

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approaches as close as possible to yellow fever. The hemorrhagic tendency has not been strongly marked as yet, though it is evidently increasing as the season advances. After the occurrence of a few more cases of black vomit, many will be pronounced yellow fever which are not now recognised as such. All this confirms what I said in my report on fevers in my first volume, viz.: '*There are no indisputable diagnostic marks of yellow fever previous to the approach of the crisis.*' Death is too often required to settle the question. Before yellow fever is declared to be epidemic, physicians are completely at a loss about the diagnosis of many fever cases. After that, everything among unacclimated subjects is yellow fever, down to the mildest remittent. Among acclimated subjects, again, they admit nothing to be yellow fever unless it terminate in black vomit, or other hemorrhage, and jaundice. Many cases of the present remittent fever have been seen in persons who have had the yellow fever.

As usual, there have been all sorts of predictions in regard to the coming epidemic. We have had just such weather as was thought would certainly bring it about, but as yet it is deferred, though it is by no means too late; severe epidemics have broken out in this city at a later period.

In pursuance of their duty, the Board of Health have had the streets kept cleaner this summer than has been done for years. The health-wardens have been vigilant and attentive in having all filth promptly removed.

The river has fallen to a low stage.

SEPTEMBER.

The weather during this month has been, for the most part, dry, fair and warm. The autumn was ushered in with a very cool spell, and the nights were generally cool and pleasant, but the sun was generally oppressively hot. The winds have been mostly from the north, and generally fresh and strong. There was rain only upon two days, viz., the 7th and 28th, and on both these occasions it fell during the night. There were heavy threats upon several occasions, lowering clouds and distant flashes of lightning foreboding an impending storm; but it all passed with but little rain. We had nothing like an equinoctial blow. The

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general aspect of the weather was precisely such as had commonly been supposed to bring about an epidemic of yellow fever, viz., cool nights, hot days and north winds. All agreed that it was *real yellow fever weather;* but the predictions of the wisest were falsified in regard to a severe epidemic. Nevertheless, there was more sickness, especially in the second municipality, than during the month previous; but yet the mortality, as reported by the Board of Health, was about *one-third less.* There were 633* interments in the cemeteries of this city and Lafayette, of which there died, of *all fevers*, 178; of *yellow fever*, 33; of various affections of the brain, 79, and of cholera, 44. The greatest mortality occurred during the week ending the 21st, and amounted to 181; the smallest was for the week ending the 7th—137. Every cool change of weather was followed by an immediate diminution of sickness.

The following is a list of the various types of fever, and the number of deaths from each, as specified in the cemetery reports, viz.: fever, 11; f. congestive, 33; f. bilious, 16; f. intermittent, 4; f. pernicious, 18; f. remittent, 26; f. typhoid, 13; f. typhus, 14; f. yellow, 33; f. malignant, 3; f. puerperal, 2; f. putrid, 1; f. continued, 1; f. cerebral, 1; f. algid, 1; f. uncertain, 1. From this it will be seen, that the types causing the greatest mortality were congestive and yellow fever; but whilst there may be a reasonable doubt whether all the deaths attributed to yellow fever were of an unquestionable character, there is good reason for believing that many charged to other types might have been more properly set down to yellow fever.

Upon no previous occasion, perhaps, has there existed so much difference of opinion in regard to the prevailing fevers of the time, as during this summer. Whilst some of the most intelligent and experienced physicians asserted that they met with genuine yellow fever, and the weekly bills of mortality reported a number of deaths from this type, the editors of our city newspapers, instructed by the physicians whom they consulted, boldly proclaimed the belief that not a case of yellow fever had been seen. Such is the prejudice that has recently sprung up in our city against the very *name* 'yellow fever,' that unless an *epidemic* be

* Weekly reports of the Board of Health.

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generally recognised as prevailing, no case will be admitted to be entirely free from doubt, without presenting *all the symptoms and marks of the most malignant type.* On the other hand, when an epidemic of yellow fever is conceded to be prevailing, everything, even to the mildest type, among unacclimated subjects, is called yellow fever. Does not this show, most distinctly, our want of definite precision in regard to the diagnostic marks of yellow fever? Without further discussing this point at present, I will proceed with a more general account of the prevalent fevers, and reserve what I have to say specially for my report on fevers.

I stated in my report for the last month, that fever was prevailing chiefly in the first and third municipalities. During this month it gradually spread upwards, and overran the second municipality and Lafayette. The most ordinary type was a mild remittent, attended with pains in the head, back and limbs, and in many cases with marked flushing of the face, neck and arms. The last-mentioned symptom was observed, to a great extent, at the Charity Hospital, and more especially among the females. By some physicians, it was attributed to the direct influence of the sun, and was therefore called 'solar fever;' but it appears to me that if there really were a type of fever worthy of such distinction and arising from such a cause, it would certainly be seen chiefly amongst that class of persons who are mostly exposed to the sun, such as laborers on the streets and levee; but this was not the case, as has just been observed.

To be brief, and not anticipate what will be more fully discussed in the special report on fevers, I will remark, as the result of my observation, and that of many physicians with whom I have conversed, that the prevalent fever was, for the most part, of a very mild type, and yielded readily to judicious treatment; that many cases, in the earlier stages, presented the usual symptoms of yellow fever, such as severe pains in the head, back and limbs, and suffusion of the countenance; and that many cases were attended by hemorrhage. The hemorrhage most commonly observed was epistaxis, and this was uniformly followed by happy effects, removing the pain and fullness of the head, and proving critical to the fever. Hemorrhage from the mouth was also seen, but less frequently. Women laboring

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under this fever very generally presented a hemorrhagic discharge from the uterus as the crisis approached. I have the testimony of most respectable physicians for saying, that cases of this fever terminated in *black vomit* and death in all parts of this city and Lafayette, though they were not numerous. In many cases, the fever was observed to affect whole families, sparing neither the old, young, acclimated or blacks.

About the last of the month, the weather turned quite cool, and there was a sudden and marked abatement of the fever. As usual, when there is no *decided* type of fever predominant, all sorts of names are given to the prevailing disease, such as 'dengue,' 'sun fever,' acclimating fever,' 'break-bone fever,' etc., according to the fancy of the observer; but my own opinion is, that they were all nothing but different grades and varieties of the same disease, viz., the endemic summer and autumnal fever of New Orleans.

The deaths from sun-stroke and apoplexy were much less than in the previous month.

There were many cases of colic, such as were seen last year. I have pursued farther my investigations in search of its *cause*, and have reason to believe I shall trace it satisfactorily to *lead-poisoning*, derived chiefly from soda-water and the hydrant-water in common use, all of which is conducted through leaden tubes. Everything relative to this subject will be more fully set forth in a special report.

Cholera.—It seems we are not yet rid of this disease. There were 44 deaths from it during this month, 16 of which occurred during the week ending the 21st. They were entirely of a sporadic character, occurring in different parts of the city, without any sort of connection between them; but presenting before death indubitable marks of the genuine disease. It was mild and slow in its progress, frequently requiring several days to arrive at the stage of collapse, but seldom failing to do so sooner or later, if neglected. We lost a worthy member of the profession (Dr. W. Hare) from it during this month.

On the 24th, the steamship Falcon arrived here, from Chagres and Havana, having lost twenty-five persons with cholera on the voyage. The disease was prevailing at Chagres

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when she left there on the 12th. She had 390 passengers. Cholera broke out on the day she started, but prevailed only till she reached Havana. There were no cases or deaths between that place and this, and the vessel was found to be clean and in good condition when she arrived here.

The streets have been in as good order as we ever see them.

The river is nearly down to low-water mark.

OCTOBER.

As usual, this has been one of the most delightful months of the year. We had rain but on three occasions: gentle rain on the nights of the 4th and 12th, and all the morning of the 17th. After this, the weather was quite cool for several days. It then became warm till the 25th, when there was a great change, and it became so cold that fires were necessary to comfort. On the 27th, heard of frost near by in the country, but none was observed in the city.

The sickness of the season continued to decline, and there was but little done in private practice. The principal diseases met with were intermittent and remittent fevers, cholera, and other bowel complaints. A good many persons who returned to the city after a long absence, had mild attacks of the prevailing fever, commonly called 'dengue.' The mortality for the five weeks ending on the 2d November was 681, less one or two cemeteries omitted.

There was quite an increase of cholera during the month, the deaths from this disease amounting to 107. For the week ending the 19th, there were 38 deaths; but for that ending on the 2d November, there were only 22. The cases occurred in all parts of the city, without showing any sort of connection whatever. The premonitory diarrhœa generally lasted three or four days, and collapse only supervened after the most shameful neglect. I saw some cases in private practice, but was not called until the patients were in collapse, and consequently hopeless.

There is nothing else worth mentioning in the way of disease.

The river was very low—*the streets* quite clean. The city began to fill up with returning citizens.

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NOVEMBER.

This month has been, for the most part, cool, dry and very pleasant. There was white frost on the morning of the 17th. The thermometer was down to 42° on several mornings, but the atmosphere was too dry and hazy to admit of much frost.

There was rain on five occasions—for the most part gentle, and at night; but a great quantity fell on the 27th. After this, the weather became warm and foggy, like the cholera weather of 1848. The cholera increased greatly during this month, causing 110 deaths during the week ending on the 9th. After this, the mortality declined to about 60 or 70 a-week, but the cases were numerous all over this city and Lafayette.

The mortality of this month, from the 2d to the 30th inclusive, was 846, of which there died of cholera 343. The mortality at the Charity Hospital was 194, of which 79 died of cholera. We thus perceive a decided increase in the mortality, especially from cholera. This was the great disease of the month, but did not attract much attention till toward the latter part, when considerable alarm was excited by the loss of several influential and well-known citizens, among them Mr. Shakspeare, an alderman of the second municipality. It is worthy of remark, that more than three-fourths of the deaths from all diseases, as well as from cholera, occurred in private practice; which shows that the sickness pervaded all classes of the community. I should say the prevailing cholera has been of the mildest form, generally beginning with a gentle diarrhœa, which was very easily arrested if promptly attended to, but invariably led to a fatal result if neglected. This was the general character of the disease, but there were a few cases of sudden seizure and very rapid progress. The disease was, for the most part, so insidious and mild in its primary operation, that the sufferer did not become aware of his danger until he was beyond the reach of remedies; and this was too often the stage in which medical aid was called. I had one patient to recover from a state of collapse. I saved another after the rice-water stools had appeared. This gentleman (Mr. H. of Mississippi) appeared to be completely recovered, but went across the lake a few days afterwards, relapsed, and died.

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Mrs. R., landlady of the Verandah Hotel, died of cholera this month, being the *third attack* she had suffered since the disease appeared here in December, 1848.

All idea of *contagion* in this disease seems to have been banished from the public mind.

Intermittent fever and dysentery prevailed to some extent during this month.

The streets were as clean as usual.

The river was very low, but commenced rising toward the last of the month.

DECEMBER.

This month has been variable in several respects—the early part very sickly, the latter quite healthy—sometimes very cold, at others as warm as summer. There was no rain till the 19th, though the atmosphere was very damp and foggy during the first week. It rained on six days.

The murky, cholera weather spoken of in the note for November, continued till the 7th, when it turned cold, and on the 9th the thermometer fell to 30° in the open air—ice in the gutters, and the ground frozen. The cholera mentioned in the last note prevailed up to this period, but was then suddenly checked: for instance, the deaths from cholera during the week ending the 7th, were 121; on that ending the 14th, 41; on the 21st, 24; on the 28th, 25.

The total mortality for the month was 649; of which there died of cholera 231.* We thus see a decline of mortality, as well in the sum total, as from cholera.

By reference to the monthly journal in my first volume, it will be seen that under a similar state of weather, about the 1st December, on three successive years, we have had an outbreak of cholera; and that we had much more of the disease at this period in 1850 than in 1849. It is also worthy of remark that, on all three occasions, the disease was checked by a sudden change to cold weather. It is probable we have never been entirely clear of cholera since its first appearance in December, 1848; and as the disease seems to be pursuing the course it did in 1832, we may expect to have it more or less for a year or two

* From the weekly published reports of the Board of Health.

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to come. As on former occasions, the late epidemic of cholera was followed by dysentery and other bowel complaints. But more of this in my special report on cholera.

The fevers of the month have been typhoid, typhus, intermittent, and some cases of eruptive fevers. The customary influx of European emigrants at this season brought us typhus or ship fever, and nearly all the cases having been taken to the Charity Hospital, we may expect to see the disease spread among the city patients there. Some cases of small-pox were also admitted there, and, as they were not isolated, this loathsome disease was communicated to some of the inmates and visitors.

We had two more horrible steamboat explosions this month. On the 13th, the 'Anglo-Norman,' a new towboat, whilst on a pleasure excursion, with a large number of our most respectable citizens, burst her boilers and caused sad havoc. This occurred just above the city.

On the 17th, the steamer 'Knoxville' burst her boilers when starting from our wharf. Fortunately this occurred about dark, after the crowd of laborers had left the levee, and consequently less injury was done than if it had happened sooner. There were but few passengers on board. An entire large boiler was blown nearly *two hundred yards* towards the city, and landed near New Levee street. In these two explosions there were some thirty persons killed, and many more badly scalded and wounded. These terrible calamities have been frequent during the year, and are thought to proceed principally from the carelessness or *incompetency* of the engineers.

The streets have been in ordinary condition.

The river has been low,—having reached low-water mark on the 26th of October, and since then been slowly rising. It is now about five feet above low-water mark, according to Mr. Hugh Grant, who keeps a water-guage opposite St. Mary street, Lafayette.

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GENERAL REMARKS.

Thus have we completed our memoranda for the year. Let us now briefly recapitulate some of the most prominent events and facts.

1. The winter was remarkably mild,—the spring unusually cold, with frost in May,—the summer extraordinarily hot and dry, presenting the customary rainy season in June and July, but less rain than usual,—the autumn dry and pleasant.

2. Since the reörganization of the Board of Health, in the spring, under the law passed in April, more than ordinary attention has been paid to cleansing the city, but there is still much room for improvement.

3. The river was high in January, and continued to rise till it reached an almost unprecedented height, but owing to a great crevasse that occurred at Bonnet Carré, forty miles above the city, and on the same side, so great a quantity of water was let off into Lake Pontchartrain as to prevent the rise from being so high at the city as it was last year. A scientific river-survey was conducted during the summer, by a committee appointed by the legislature, the results of which will be given in another place.

4. Among the most interesting points relative to the prevalent diseases of the year, I may mention that a few sporadic cases of yellow fever were seen at the Charity Hospital in January, February and March, that the fevers of the summer and autumn were unusually mild, and that cholera prevailed throughout the year, increasing to an epidemic extent in March and November. This disease has caused fewer deaths by half this year than last, the numbers being 3,285 for 1849, and 1,517 for 1850, including cholera morbus and omitting cholera infantum. The mortality of the city has not been so large, as will be shown by the annual report of the Board of Health.

Some discrepancy will appear between the monthly mortality mentioned on several occasions in this journal, and that stated in the annual report of the Board of Health, which is to follow. I can only say that my data were furnished by the *weekly* reports of the Board.

As stated in the beginning, this journal is published almost *verbatim* as it was kept.

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METEOROLOGICAL REGISTER FOR

(Prepared for the Report

1850:	Thermometrical Averages,					Barometric Averages,	Dew Point Averages,			
	AT Sunrise	AT 9 A. M.	AT 3 P. M.	AT 9 P. M.	Total Average.	FROM SAME PERIODS.	AT Sunrise	AT Mid-day	AT 9 P. M.	Total Average.
January ..	56.35	61.60	67.19	59.93	62.34	30.052	53.33	58.68	55.86	55.95
February,	51.46	58.75	65.96	55.07	58.11	30.086	44.73	50.80	45.06	46.86
March....	60.96	65.48	68.22	63.93	65.90	30.001	54.77	57.46	56.03	57.90
April.....	62.10	69.56	72.44	68.50	68.15	30.014	60.62	64.91	61.67	62.40
May.....	67.64	73.33	75.74	72.83	74.28	29.998	63.75	67.04	66.22	65.67
June.....	73.66	79.66	79.40	67.40	77.54	30.099	69.20	72.94	72.11	71.41
July.....	77.61	82.64	84.12	82.45	81.70	30.044	75.22	76.80	77.03	76.35
August....	78.68	84.51	85.74	82.71	82.91	30.036	76.41	76.95	77.20	76.85
September,	74.93	81.91	84.14	81.34	80.45	30.945	71.23	74.05	74.71	73.32
October....	65.00	72.00	74.79	70.53	71.35	30.095	60.93	62.95	63.20	62.37
November,	57.30	61.34	66.46	60.16	61.31	30.028	49.45	53.69	53.29	52.14
December,	47.93	55.68	62.38	56.00	55.49	30.130	46.59	52.29	50.67	49.85
TOTAL FOR THE YEAR	64.46	70.53	73.88	69.23	70.05	30.077	60.26	04.46	62.75	62.58

1850.	Degree of Moisture on the Hygrometric Scale.			Degree of Dryness on the Thermometric Scale.			Pluviometer. — QUANTITY OF RAIN, in Inches and 1000ths.
	Maximum.	Minimum	Average.	Maximum	Minimum.	Average.	
January...	1000	.401	.817	28.00	sat. 13 times.	6.64	5.706
February,.	1000	.330	.696	42.60	do. once.	11.10	3.800
March.....	.952	.498	.781	29.20	1.50	9.97	2.000
April.....	1000	.422	.822	26.4	sat. twice.	6.84	4.110
May.....	.938	.512	.775	19.7	1.60	8.13	6.370
June.....	.958	.444	.827	23.5	1.40	6.87	4.725
July.....	1000 4 times.	.589	.825	17.9	sat. 4 times.	6.96	6.100
August....	1000 4 times.	.550	.575	19.3	0	6.61	7.223
September,	1000	.593	.775	16.1	0	8.09	0.901
October...	1000	.366	.780	28.7	0	14.95	1.180
November,	.952	.397	.735	26.7	1.5	9.16	1.360
December,	1000	.464	.820	21.1	0	5.64	5.050
TOTAL FOR THE YEAR	.983	.463	.778	24.9	0.41	8.39	48.525

☞ The THERMOMETER is marked four times a-day — at Sunrise, 9 A. M., 3 P. M. clouds, force, direction and nomenclature, and amount of the heavens clear or otherwise of the Rain — when it began and ended, as well as quantity; Thermometer in sun, as wel

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NEW ORLEANS.—By E. H. Barton, A.M., M.D.

of the Board of Health.)

Amount of Moisture, Average,				Elasticity of Vapor, Average,				Weight of Vapor in a cubic foot, in grains, Average,			
At Sunrise	At Midday	At 9 P.M.	Total Average	At Sunrise	At Midday.	At 9 P.M.	Total Average	At Sunrise	At Midday.	At 9 P. M.	Total Average.
.902	.619	.876	.817	.460	.538	.490	.496	5.033	5.839	5.445	5.439
.804	.870	.714	.697	.330	.412	.340	.363	3.806	4.453	3.700	2.986
.819	.601	.773	.776	.472	.516	.492	.493	5.235	5.455	5.425	5.371
.959	.674	.803	.821	.571	.644	.588	.601	6.321	7.062	6.432	6.638
.883	.641	.814	.778	.629	.699	.682	.670	6.739	7.459	7.396	7.198
.905	.720	.833	.819	.784	.849	.823	.818	8.474	9.017	8.853	8.781
.961	.671	.844	.825	.910	.942	.966	.939	9.796	10.078	10.190	10.021
.929	.694	.838	.820	.946	.966	.970	.960	10.174	10.155	10.340	10.223
.884	.654	.812	.783	.801	.858	.897	.852	8.645	9.241	9.582	9.156
.878	.634	.790	.767	.576	.615	.619	.603	6.349	6.598	6.738	6.561
.762	.630	.797	.729	.394	.454	.459	.435	4.381	5.177	4.987	4.848
.952	.720	.833	.833	.358	.433	.410	.400	4.071	4.791	5.575	4.812
.886	.677	.810	.788	.602	.660	.635	.635	6.585	7.110	7.055	6.919

Aspect of the Sky.			WINDS.								
Number of days			*Number of days blowing from the*								
FAIR.	CLOUDY.	RAINY.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	CALM.
13½	13½	4½	6½	5½	3½	1½	9½	0½	0½	2½	0½
18½	6½	3½	5½	3½	3½	0½	9½	0½	2½	2½	0
16½	12½	2	11½	2½	3½	0½	10½	0½	0½	2	0
16½	11	3½	5½	0½	2½	2½	14	0½	2½	2	0½
22½	6½	2½	4½	2½	2	1½	11	2½	3	2½	2
15½	5½	5	1½	2½	8½	4½	3½	0½	0	0½	1½
18½	9½	3	5	3	3½	1½	6½	3½	2½	1½	3½
21½	4½	4½	5½	0½	2½	1	7½	3½	5½	3½	1½
25	3½	0½	11	2½	5	1½	2½	1½	2	1½	1
21½	5½	1	10½	3½	8½	0½	1½	0	2	1	0½
15½	9	1½	7	4½	4½	5	0½	0½	1	2½	0½
18½	8	3½	6½	4½	4½	4½	4	1½	2½	1½	0
222½	91	35½	80½	35½	51½	25	81	14	24½	24	11½

and at 9 P.M., and so of the Barometer: Winds, force and direction; Aspect of Sky—from 0 to 10; Hygrometer at Sunrise, Midday, and 9 P.M., and various other particulars; as exposed to radiation at night, etc., not required to be enumerated here.

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ARTICLE II.

ANNUAL REPORT OF THE NEW ORLEANS AND LAFAYETTE BOARD OF HEALTH, FOR THE YEAR 1850.

It cannot but be painful, year after year, to have to allude to the same facts, to make the same statements, and to give the same advice, which is nothing more nor less than the careful embodiment of the accumulated results of the experience of the civilized world, in relation to the known causes of disease, and the means of their mitigation or removal. We say painful, because we meet with comparatively so little coöperation on the part of municipal authorities. We must, in justice, except our worthy mayor, who is ex-officio president of the Board of Health. He has always expressed great solicitude for the welfare of the city, and seconded, to the utmost of his ability, the suggestions, deliberations and decisions of the Board, when sanitary measures have been devised and recommended, important not only to the health and lives of our citizens, but to the commercial prosperity of the city.

The Committee appointed by the Board of Health to draw up the annual report have, however, no disposition or intention to shrink from or omit one iota of the duty assigned them. They know the power of truth, and that ultimately it *must* and *will* prevail. They know that iron and steel can, by repeated blows, be fashioned by the skilful artificer into any form or shape he may desire. They are aware, too, that drop after drop of water impinging upon the most solid rock, will, in the course of time, perforate it, and leave an indelible impression. And having these and abundant other kindred analogies before them, they are firmly convinced that similar results must sooner or later become manifest, from persevering efforts in cases or instances where the mind and human action are concerned.

THE UNKNOWN.

One of the strongest proofs of *high civilization* is the estimation in which human life is held by municipal law.

We do not allude to those criminal laws in Europe which are

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so fearfully scrutinizing, terribly persevering, and sternly inflexible, when it is known that a citizen has been deprived of life by unfair means,—but to those stringent laws which compel all the parties concerned or implicated to account for the decease of an individual; that is, to determine, by all possible evidence of which the case admits, whether the death in question is natural, or has been caused by some specified disease, or whether it was the result of murderous intent.

This, then, is the first great principle—that no one shall be buried unless the authorities and the public can be fully satisfied as to the cause of death. And the second one is, the extreme attention and care devoted to the subject of hygiène, and the rigid adoption of all the means known by experience to be the best calculated to ward off or favorably modify the disease.

Where such feelings animate the public, they cannot but be infused into councils and corporations. And these being impelled by public opinion to energetic and enlightened action and coöperation with the Board of Health, the labors of that body, with the assistance of health-wardens and commissaries, would be comparatively easy and pleasant; and the result of their counsel and action would soon be realized by the public.

We are at a loss to decide which of these two great objects is of most importance. On one hand, there is the jealous protection of human life from lawless violence or stealthy destruction, in which the eternal and immutable principles of truth and justice are concerned; and on the other, the prosperity of this great commercial city.

Rapid as has been the progress, and great the prosperity of this city, what would it have been had not the fear of yellow fever proved the cause of the annual abstraction of probably one-third of the most enterprising, active, intelligent and wealthy part of the community? It is not only the temporary suspension of business that should be considered, but the vast sums of money that every year are expended at the North or in Europe, aiding and abetting, and comforting comparative strangers with the very means that should be employed in cherishing and developing the mechanical skill, and industry and welfare of our own citizens.

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In this view of the subject all holders of real estate are deeply concerned; for every interest in New Orleans depends *solely* upon her *commercial* prosperity. Houses cannot be rented, nor can they be built after lots have been purchased, when that commercial prosperity is on the wane. Invested capital, under such circumstances, yields no profit. And we earnestly appeal to the enlightened portion of our fellow citizens to take this matter into serious consideration.

We should keep pace with the progress of civilization and of science, in all their departments, and in all their important bearings.

In preceding reports of the Board of Health, it has been observed, that in every weekly obituary report the cause of death in certain instances has been represented as unknown, or uncertain. And having stated the fact, the hope was indulged that our civil authorities would no longer overlook a matter of such paramount interest.

It may be supposed that all the responsibility in this weighty consideration rests upon the members of the Board of Health. They who think so, err; for however conscientious, enlightened and faithful the members of the Board may be, they can accomplish but little without the cordial coöperation of the municipal authorities.

In the early part of the present session of the Board of Health, a resolution was introduced and adopted, that no certificate for burial should be given, except by licensed physicians or magistrates—men supposed to be morally and intellectually aware of their responsibility. In their absence, the case was left to the coroner.

This position could not be maintained. There were physicians who refused to give a certificate for the patients they had attended. Corpses were kept several days, until they became an intolerable nuisance to the neighborhood. The coroner could rarely be found; and if called in on every occasion, the expense would have proved ruinous to the State. Commissaries were then authorized to give passports to the cemeteries, and the evil remained, and still remains, unabated.

What can the Board of Health devise to remedy this serious

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omission? Absolutely nothing. They are impotent, unless sustained by public opinion, and we invoke public opnion to come to the rescue. The citizens appointed by municipal authorities cannot contend with those authorities, nor can the members of the Board compel physicians to sign certificates, and furnish information to the Board, according to law. It too often happens that a law is as inoperative as if it had never been enacted: it is so in this instance.

We know of no country where justice is maintained in greater purity, or where life is held in higher estimation than in France. There are no criminal records known like those of France, where the officers of justice track the offenders against the majesty of the laws, with the tenacity and perseverance of bloodhounds, to their secret recesses and mysterious haunts.

In that admirable report on the cholera in Paris, published by the authority of the French government, we have a happy illustration of the energy and sleepless vigilance of their medical police, when their country is visited by such a desolating pestilence as the cholera of 1831.

We quote, without the least fear of being deemed tedious or prolix:—'Finally, the cholera cost the French capital 18,402 victims, officially reported.' After alluding to the different opinions expressed as to the number of deaths from cholera, which, according to some calculations, amounted to forty or fifty thousand, we meet with the following clear and explicit reasoning: 'First, it may be answered, that because an event may have happened in such a manner, it does not follow necessarily that it has so happened. The deduction drawn from a supposed fact does not demonstrate its truth; and it is bad reasoning to begin by advancing, as an established fact, what requires to be first proved; and besides, are those who thus speak [*alluding to the exaggerated amount of the victims] aware of all the formalities that precede the inhumation of a corpse? It will not, perhaps, be useless to mention them here. When an individual dies, a declaration is to be made of the fact to the proper authorities of the arrondissement; a warrant is immediately directed to the physician appointed for that purpose, to enter the dwelling of the

* Remark of the Committee.

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deceased, and visit* the body in order to certify the death, and ascertain its cause. *This is a precaution required alike by the moral and physical well-being of society.* †

'This preliminary step having been taken, the officer issues duplicate affidavits of the facts, one copy of which is put on file, and every month the files are sent for examination to the prefecture of the department. The other copy remains at the office of the alderman of the ward. It is on the presentation of that document, and the attestation of two witnesses, that the *acte-décédé* is made out, and that the mayor issues the warrant of burial, to be presented to the keeper of the cemetery where the body is taken. Such are the conditions to be fulfilled before burial is allowed. They are many:—1st, Declaration and attestation of death; 2d, the warrant of inquest; 3d, the draft of the civil act; 4th, the warrant of inhumation.'

We earnestly request the enlightened public and our municipal authorities to give to this subject the deliberate consideration which its great importance so well deserves. Truth demands it—justice requires it—morality exacts it. It is absolutely necessary for the perfection of our system of criminal jurisprudence.

OF THE SPECIAL DUTY OF THE REPORTING COMMITTEE.

In the act of the Legislature, approved 16th March, 1848, establishing a Board of Health in and for the parish of New Orleans, the duty of the Committee appointed to draw up the annual report is distinctly expressed in the 8th section:—

'*And be it further enacted, etc.*, That it shall be the duty of the Board of Health to make an annual report to the several Councils, as to the health of the city for the preceding year, and to suggest means for improving the same.'

This plain language calls for facts, and dispenses with speculations. The melancholy records of the dead are stern facts, that remind us of our mortality. The accumulated wisdom and experience of enlightened physicians, in all countries and in all ages, admonish us as to our duty.

In the *Medical and Surgical Journal* for January, 1850, we find the following remarks:—

* *Inspect* would be a better translation.

† *Italicised* by the Committee.

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'When our January number for 1849 went to press, our city was struggling with a fatal epidemic of cholera, and every feeling which by turns occupies the human heart was absorbed by one of fear, anxiety, and the most gloomy anticipations for the future.'

The following remark from the same article is as true and applicable now, at the close of the year, as it was at its commencement.

'Since that date up to the present time, the cholera has remained in our city, fluctuating from one point to the other, and ocasionally disappearing for one week, to reappear the succeeding one; but always presenting the same or similar symptoms, and ever warning its intended victim, by unmistakeable premonitory evidences, of its approach.'

During the year 1850 cholera has at no time been epidemic, nor has it at any moment been entirely absent.* Whilst a few deeply-lamented citizens have been its victims, it has principally affected the newly-arrived immigrants, or those ghastly specimens of humanity that occasionally arrive from California. But such victims are already ripe for the harvest: the former depressed in spirit, debilitated by breathing impure air in the hold of an over-crowded vessel, and subsisting on *cheap* provisions, that were damaged before they were purchased; the latter wasted by the labor of mining in mud and water, scorched by the fierce rays of the sun by day, and shrivelled by the chilly blasts of night, that descend from the snow-clad sierras,—and, moreover, exhausted and attenuated by diarrhœas and dysenteries, and obscure forms of inveterate intermittents, the most inevitable consequences of such reckless exposure.

Now, when these two classes of persons arrive in our city, and they are constantly coming, from January to December, they generally fall into great excesses in eating vegetables and fruits; hence the unusual mortality amongst them. But in speaking of the climate our city, and its tendency to health or sickness—to longevity or early decay—either in the abstract, or as compared with other localities, the incidental recruits that swell our bills of mortality, whether they come from Havre, Liverpool, Belfast or Bremen, or from California, the 'El Dorado' of rest-

* We shall endeavor to show the incorrectness of this remark in our report on cholera which is to follow.—Ed.

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less spirits, should be excluded from our calculations respecting the salubrity of our climate.

And so, also, should we exclude that tremendous crowd of strangers which throng our city during the winter and spring months. We speak of the human avalanche that pours down the Mississippi from every contiguous State, and the western and north-western, from the last limit of north-western civilization in Wisconsin, Iowa and Minesota.

This is what is usually denominated a floating population, which fills to overflowing our hotels and private boarding houses with a continuity as to human beings, but incessant change as to personality. The number of strangers in our city during certain months, at the same time, has been estimated to range between thirty and fifty thousand.

From official records in the recorder's office of the second municipality, commenced under the direction of recorder Baldwin, aided by the captain of the police, we are informed that the number of American citizens from all parts of the country, but chiefly from the great valley of the West, has ranged, annually, between one hundred and twenty and one hundred and twenty-five thousand. Not one death accidently occurring here amongst this vast crowd is fairly chargeable to any peculiarity of climate, considering the period of the year when they visit the city. But there can be no doubt that they largely contribute to swell our bills of mortality.

The act of the legislature that prescribes our duty, if fairly construed, does not require us to go into profound researches and philosophical speculations, connected with the obituary reports. *Such are not excluded* by the act, it must be admitted; yet it seems simply to imply that we should state in our annual report how many persons have died and been buried in New Orleans during the current year, what diseases have prevailed, with all the information that can be collected, regarding the place of nativity, the period of residence, age, sex, color and occupation of the deceased.

We quote again, from the May number of the *Medical and Surgical Journal:* — 'Without any known appreciable cause, the weather being warm and dry, the cholera began suddenly, the

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middle of March, as just stated, to increase rapidly, as may be seen by the following statement:—

'For the week ending March 9th, total deaths 106; cholera, 6;
" " 16th, " 165; " 65;
" " 23th, " 234; " 149.'

From the 26th of March the disease rapidly declined.

This will serve as a fair illustration of what may be denominated waves of cholera, which, during the year 1850, have been ever and anon surging, swelling, flowing and ebbing.

But there is one remarkable fact which we deem it proper to place on record, in connection with the last visitation of cholera in December, 1848. We will first advert to the condition of the city at that period, or during the greater part of that year, as described in the annual report of the Board of Health for the year 1848.

'Probably since the time when the first paving was done in New Orleans, the streets had never been in so bad a condition as at the beginning of the month of December. The continued rain, and the saturated state of the earth, had rendered repairs useless or impracticable. The elements of fermentation and putrefaction accumulated fearfully in every direction, until the atmosphere was polluted by poisonous exhalations, in which a sickly acid smell at times predominated, and which were pressed down in a concentrated state near the surface, by the dismal fogs which shrouded the river and the city in gloom.' *

Having pointed out the condition of things in 1848, which was as favorable as one can possibly conceive of for the development, propagation and duration of pestilence, attended with fearful mortality, we now remark, that from all the authentic sources of information to which we have had access, the victims from cholera in this city in 1848 and 1849, although there was the usual number of unacclimated persons who had recently arrived, under all circumstances so unfavorable to vigorous vitality and that moral energy which, above all other things, enables us to resist disease, were less on an average than one-half the victims from the same pestilence in the towns and cities of the West, high up the

* We wish it to be observed that the paving of round stones in the principal business streets having remained broken up for months, it was impossible for the scavengers to remove the daily contingent remainders of the repasts of thousands of our citizens.—*Note by the Committee.*

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river, and on the southern shores of our great northern lakes. From the period that it commenced its sore visitations in the western and north-western States, it has been wandering about from place to place in *those* parts of our country,—in Texas, in Mexico,—and, finally, it has descended, with terrible destructive power on the ill-fated island of Jamaica. The recent accounts from Kingston are really appalling.

We submit the foregoing singular facts without comment, deduction or application. We leave it to each one of our readers to draw his own inference.

If the visitations of cholera in the city during the year 1850 have been comparatively light, those of yellow fever have been hardly worth noticing. We always look to the Charity Hospital for the first demonstration of devastating pestilence, and we find recorded on their books the usual variety of fevers appertaining to the season, with scarcely an allusion to yellow fever.*

[We omit at this place a quotation from one of our daily newspapers, respecting the 'health of the city,' which contains palpable errors, to say nothing of a gratuitous reflection on a portion of the medical profession.—EDITOR.]

If any disease prevailed as an epidemic, it was that anomalous and rare type of fever called 'Dengue.' This disease first appeared in the United States in 1828; for it must not be confounded with the typhus syncopalis described by Drs. Tully and Miner as having existed in the State of Connecticut about the year 1822. It appears to be of Cuban origin, from its name 'Dengue,' signifying a shawl, which was in general requisition in Havana to counteract the chilly sensations which attended the access of thedisease. It is not a dangerous, although a very painful form of fever. We learn from a Charleston paper, published during the course of the last summer, that not more than one person in ten in that city escaped the dengue or break-bone fever. 'At one time, there were twelve thousand cases reported as existing in the city. Though there have been so many cases, it

* In the November number of the *Medical Journal* we find the following remarks:—'During the Summer and Fall, the mortality in the Charity Hospital has been remarkably small for the large number admitted. * * * * * The fact stands recorded on the books of the institution. The city is at present exempt from all epidemic and endemic diseases.'

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is not a little remarkable that there should have been none of fatal termination.'

We cannot dwell longer upon this part of our subject. For fuller information as to the ordinary and incidental diseases of our climate and of our city, we must refer our readers to the Tables which will be found at the conclusion of this report.

THE MEANS TO IMPROVE AND PRESERVE THE HEALTH OF THE CITIZENS.

The second branch of our subject next claims our attention. We allude to the means of preserving and improving the health of the inhabitants of this city, which will involve the following considerations:—

1. A peculiar condition of things in the first municipality, as connected with police regulations appertaining to the subject of hygiène.

2. The water question—one of no small importance.

3. Of the state of the canals Claiborne and Girod.

4. Of the duties of health wardens, and the circumstances connected with their appointment.

5. The act of the legislature in reference to the Board of Health—wherein inoperative, and the necessity of amendment or modification.

6. The ordinances of Councils still in force.

7. Nuisances in general.

8. The important question of a well-defined system of sewerage.

9. Of the granting of certificates for burial.

10. Of the effects of lead on water, soda-water, etc., as suggested by Dr. Fenner.

11. To the necessity of stopping all foreign vessels at some convenient point below the city, until boarded by an officer, (a physician, and member of the Board of Health,) duly appointed for that special purpose, with the duties necessarily devolving on the same.

We shall take up each one of these points separately, dwelling upon it is as briefly as the nature of the case will admit of: and—

I. The anomalous condition of things in the first municipality, and the collision of an act of the legislature with an ordinance

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of our much esteemed and respected alderman of the Old First —in other words, with a municipal corporation.

The second section of the 'act relative to the establishing of a Board of Health for the cities of New Orleans and Lafayette,' reads as follows:—

'*Be it further enacted, etc.*, That power and authority are hereby given to this Board to impose a fine on commissioners of police and contractors for removing filth from the streets of either city, for neglecting to conform to the regulations of this Board. This fine shall not be less than twenty dollars, nor more than one hundred dollars; and for incurring a third penalty, it shall be in the power of the Board to remove any contractor or commissary who shall fail to perform the duty required by the said Board.'

Now, it so happened, that the carrying out of this law was impracticable, from the fact that there were no contractors to be sued in case of dereliction of duty. The worthy aldermen constituted themselves a board of contractors, employing the negroes belonging to the corporation, or white men by them employed or paid, under the surveillance of the surveyor, who in this instance was placed in the position of an overseer on a plantation. A corporation having, according to Blackstone, no special entity as a soul, distinct and tangible, the Board of Health could not make that body, acting as a board of contractors, responsible to them. And as to the commissaries, they are generally so needy, and paid so poorly, that it would be perfectly useless to sue them, on the principle of '*nil dat quod non habet.*' Besides, from the well-known high mettle of the aldermen of the First, there can be no doubt of the immediate reäppointment of an incumbent, should the Board have the temerity to remove him, according to law. We are happy to bear testimony to the good conduct and efficient service of the commissaries generally.

We trust that this explanation will satisfy all complainants in the first municipality as to the inability of the Board of Health to carry out its ordinances respecting the duties of contractors. For instance, of what use was it for the Board to direct or request that the offal from the tables of the kitchens of the dwelling-houses should be promptly removed, after being deposited in the streets? The remaining remarks on this subject must be reserved for the discussion of nuisances, the 7th point in our recent programme.

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THE WATER QUESTION is the second point, and one of vast importance. Water is as much a necessary of life as the air we breathe; both should be as pure as possible, and as abundant as practicable. Where is the city in the world that is furnished by nature with such a body of as fine water as this city affords? The Mississippi, called the 'Father of Waters,' rolls majestically alongside of the two cities of New Orleans and Lafayette, for a distance of more than five miles. And yet it is painful to reflect upon the frequent sufferings of the working classes from the want of an abundance of pure water. Cisterns are, in time of drouth, soon emptied; the means to *purchase* water hauled from the river to the back parts of the city are soon exhausted, and then what resource is there but the impure well-water impregnated with the fœtid gases filtered or exhaled from the alluvial substratum on which the city is based? The Board of Health are firmly convinced that much of the cholera which has been from time to time swelling and causing so much anxiety and alarm, was occasioned, especially in the third municipality, where the victims were most numerous, by the necessity of drinking this polluted water. To cholera we might add a catalogue of other diseases produced by the same cause, such as diarrhœas, dysenteries, etc.

This subject has been earnestly presented to the consideration of our municipal authorities in every report of the Board of Health since 1845. Every intelligent citizen knows, that by the charter of the corporation connected with the Water-works, there is an obligation, not only implied, but plainly expressed, to supply every part of the city abundantly with Mississippi water.

Is the corporation asked to do this gratuitously? Most certainly not. Let the number of engines used in pumping up the water be doubled, trebled or quadrupled, if necessary; let hydrants be multiplied, and the lines of iron pipes be prolonged, and carried to every part of the city. The people will pay for the privilege—we should rather say, *the right*—for those who are not able to pay for the *luxuries*, will most surely expend the last dollar for the *necessaries* of life.

We have before us the examples of the energy and enterprise of the citizens of New York, Boston and Philadelphia. In New York, the Croton water has been introduced into the city, from

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a distance of forty miles, at a cost of millions of dollars. It has already become a source of revenue; for all who are able, cheerfully pay for the pure water with which they are supplied; and to the poor and destitute, it is furnished with a munificent prodigality, by means of fountains, pumps, and hydrants. The same remarks are applicable to Boston, and to Philadelphia. We admire such evidences of enlightened enterprise, and such proofs of a high sense of moral obligation, which animate alike the mass of population and the municipal authorities.

Why cannot the same enlightened measures be carried out here? The expense of furnishing an abundant supply of pure water to all our citizens would be almost nothing compared with the vast sums expended in the cities of which we have just spoken. Every man who follows any industrial pursuit, could and would pay readily for the supply of Mississippi water furnished to his domicil. And the civil authorities should watch over the interests and wants of the destitute who may be struggling with adversity and misery, caused by the very want of this water.

It is most painful and humiliating to reflect that a pitiful consideration of a few thousand dollars, more or less, should be thrown into one scale, to bear down in the other the high considerations of justice and moral obligation, together with the strong and stern appeals of suffering humanity.

How can the gutters of the streets and side-walks be kept clean and sweet, without an abundant supply of water furnished for the use of the Board of Health for that purpose? And yet a complaint was made sometime last summer before the General Council, that water was wasted by the Board, when it is a notorious fact that they cannot control the supply of one pint of water, and can only, through their appointed agents, make the best use of the miserable allowance which it may please the agents of the corporation to grant.

We read, in the Picayune of the 20th September, 1850—'We are glad to hear of these improvements, [alluding to great improvements about to be made, and of others said to have been made in the course of the present year—(*Committee*)] as great complaints have been made in portions of our city of a deficiency of water from the Works. According to the charter of this

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company, they are bound to supply as much water as is needed for the washing of the streets and side-walks.'

We shall be most happy to witness these improvements, and the fulfilment of the obligation spoken of, yet so far we have no ocular or other proof of the facts alledged.

But we must pass on, to make a few remarks about the Claiborne and Girod canals. The condition of these conduits that drain all the back part of the first municipality, from Esplanade to Canal street, between Rampart street and the Bayou St. John, have been often complained of as an intolerable nuisance, (and especially during the year 1850), by the inhabitants residing in their immediate vicinity. Nothing is easier than to make those canals accomplish the object for which they were designed. The engine or engines at the termination of the Canal Girod, at the Bayou St. John, should be kept constantly at work, so as not to allow those accumulations of filth to take place, which at first obstruct the free passage of the water, and finally produce complete stagnation. The Council of the first municipality should compel the surveyor to attend strictly and punctually to this matter, and promptly dismiss him should he neglect the duty. The canals in question have several times, for years past, been visited by committees of the Board of Health, and have always been found in the condition complained of. This appears the more extroardinary, as they have made themselves, by personal inspection, convinced of the efficiency of the machinery at the Bayou St. John. There is no other city in the United States, or in Europe, where such a nuisance would be tolerated. We trust that it will hereafter be abated by municipal authority. The Board of Health, without regard to sacrifice of time, would cheerfully undertake to remedy the evil, if the State or City would furnished them with the authority and pecuniary means.

Our next and fourth subject, relates to the health wardens.—The phraseology of the act is very loose and defective, and has placed the members of the Board of Health in a position liable to great and constant annoyance.

In the third section, it is enacted, 'That the Board be author-

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ized to pay.' How can the Board pay them, without the possession of the necessary funds? and if they thought proper, having the ability to pay them out of their pockets, certainly the authority of the legislature would not be necessary. The twelfth section enacts—'That the expenses incurred under the act shall be paid by the Councils of the three municipalities of the city of New Orleans, and the Council of the city of Lafayette, in proportion to their respective revenues.'

The detention in the payment of the health wardens by the Councils caused them to look to the Board of Health for remuneration, to their constant and great embarrassment. The act of 1848, which is unrepealed, makes it the imperative duty of the Board of Health to appoint the health wardens. Sec. 4th: 'That it shall be the duty of said Board to appoint annually not less than two citizens, to be known as health wardens, for each municipality of the said city of New Orleans.' Aware of the emptiness of the city exchequers, and the consequent difficulty of payment, the Board assumed the responsibility of appointing but one for each, as the act of 1850, which applies alike to New Orleans and Lafayette, does not state the number that shall be employed, but apparently leaves it to the Board of Health to decide that point. This is as it should be; and the system would be found to be most efficient, if the means of payment were provided by an appropriation of the legislature, subject to the orders of the Board, whose duty it should be to use it prudently, and account for their disbursements to the satisfaction of the State treasurer, and pay over to that officer any balance that might remain at the end of their term of annual service. Much of the health enjoyed by the city during the year 1850 may, with justice and propriety, be attributed to the faithful performance of the duties assigned to the health wardens. If they did but comparatively little in the streets, owing to the want of coöperation on the part of the civil authorities, they rendered good service by their attention to house yards and empty lots, and with very few exceptions, found the citizens willing to remove immediately any nuisance, when directed so to do.

The Committee, before leaving this subject, would take occasion to pay a passing tribute of respect to the memory of one of

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the most efficient of the wardens: we allude to the lamented Perry, who enjoyed the entire confidence of the Board, by whom he was esteemed as much for his good sense, as for his high moral qualifications.

In the fifth place—the consideration of the act of the legislature of 1850, establishing a Board of Health for the cities of New Orleans and Lafayette.

The city of New Orleans stands amidway between the high seas—that trackless ocean ploughed by so many keels—an evidence of the wealth, intelligence and civilization of the present era of the earth; and the great valley of the Mississippi, with its fifty thousand miles of steam navigation, in connection with, and backed by, those great inland seas called the Northern Lakes. Its position, therefore, is that of a sentinel, who should be vigilant, sleepless, incorruptible,—a pure worshipper of truth and justice. There are diseases the result of common causes which are not contagious, but indigeneous; but there are others which are infectious or contagious, against which we should protect our fellow citizens by all the means which the God of Nature and the laws of a civilized community have placed within our reach. There is a weighty responsibility devolved upon a Board of Health here, or elsewhere, by a confiding community, and it is because we *feel* that responsibility, and appreciate the confidence reposed in us by our fellow citizens, that we desire to be placed in a situation, with ample resources and plenary legislative authority, to act for the protection of the vast interests committed to our charge.

Under this view of the subject, the Board of Health is not to be considered solely in reference to the cities of New Orleans and Lafayette, but in connection with the best interests of the inhabitants of the Great Valley, which is steadily increasing in population, wealth and intelligence.

We have already shown how the second section of the act of 1850 conflicts with the action of municipal authority, and is inoperative and useless for the want of the cordial coöperation of the civil power with the Board of Health.

The third section should be amended, so as to grant to the

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Board of Health the sole right and power to decide what number of health wardens they may deem it necessary to appoint. In this case it would be necessary to repeal the first paragraph of the fourth section of the act of 1848. Again: What is the use of granting to the Board authority to pay health wardens, which implies a pecuniary obligation on the part of its members, when no means are provided for that purpose?

Again: To render the Board of Health efficient, an amount, say ten thousand dollars, should be appropriated by the legislature, subject to their order and control, to enable them to pay the health wardens, and to employ and pay men with carts and horses to remove special nuisances, without waiting for the slow process of law—to pay their secretary, and all other expenses incurred by its neceseary action.

Every thing in relation to quarantine should be left to the deliberate judgment of the members of the Board; they should have the means of providing a temporary hospital at least, so as to be able to insulate a contagious disease, and protect the city and the Valley, without the harsh alternative of compelling crews and passengers to remain on board an infected ship, thereby dooming all to despair, and more or less of them to certain death: and this belongs more properly to the State legislature than to the city authorities.

The ninth section also requires correction. Instead of making it the duty of the Board to appoint from among the physicians composing its body, to board and examine ships arriving from foreign ports, one to be selected from each municipality and Lafayette, to perform the duty in rotation monthly, the whole direction of this matter should be either confided to the Board, or authority should be granted to appoint one of their body, necessarily a physician of sufficient experience and judgment, to act as the sole boarding officer for the year, leaving to the discretion of the Board the amount of compensation said officer should be entitled to receive for each ship visited. This is one of the taxes on commerce of which we have neither here nor elsewhere heard the captains or owners of a ship complain. They feel themselves safer in the hands of an intelligent physician, than when in the power and subject to the capricious control of

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a municipal body, where there is on the subject no individual or special responsibility.

In discharging the duty required by the ninth section, a physician must either, in a great measure, abandon his practice, or fail in the performance of his assigned duty; for the compensation he would receive for a month's service as a boarding officer, would not compensate for the loss of practice. But if appointed for one year, it would be well worth his while to accept the office and attend solely to its important duties.

VI. *The ordinances of the General Council now in force.*—Some of these have been excellent, and would have proved effective and beneficial if carried out in the spirit in which they were conceived. The ordinance of the General Council of the 23d June, 1847, may be considered as an embodiment of their municipal legislation on the subject, and we shall therefore incorporate it in this part of the report, without further comment or criticism, with the exception above alluded to, of one of its provisions. Instead of assigning the precise spot where the ship shall be anchored and boarded, this matter, as we have before stated, should be left entirely to the decision of the Board of Health.

'MAYORALTY OF NEW ORLEANS:

'GENERAL COUNCIL--Sitting of 23d June, 1847.

'AN ORDINANCE RELATIVE TO VESSELS ARRIVING AT THIS PORT, FROM SEA.

'ARTICLE 1. *Be it ordained, by the General Council of the city of New Orleans,* That all owners, captains, masters or commanders of vessels arriving at this port from sea, be and are hereby forbidden, whenever there may be any infectious or contagious disease on board of such vessel, to moor such vessel at any of the wharves of either of the municipalities of this city; and it shall be the duty of said captains, masters or commanders of such vessels, to anchor in the middle of the river below Slaughter-house Point, and there remain at anchor until such infectious or contagious disease shall have entirely disappeared from such vessel; and any master, captain or owner of any vessel contravening, shall pay a fine of one hundred dollars.

'ART 2. *Be it further ordained;* That it shall be the duty of the mayor, whenever he may receive information of the arrival of any vessel having any infectious or contagious disease on board, to order such vessel to come to an anchor in the middle of the river, below

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Slaughter-house Point; and in case of the master or commander of such vessel refusing or neglecting so to do, the mayor is hereby authorized to cause such vessel to be immediately removed to and anchored at the place above designated; and the owner, master or commander of such vessel shall pay a fine of one hundred dollars for neglecting or refusing to remove such vessel as aforesaid, and shall also pay the expenses of such removal.

'ART. 3. *Be it further ordained*, That any owner, master or commander of a vessel who shall land or permit to land, within the limits of the city of New Orleans, any person or persons affected with any infectious or contagious disease, shall pay a fine of one hundred dollars for each and every person so affected they may land or permit to land.

'ART. 4. *Be it further ordained*, That it shall be the duty of all owners, masters or commanders of vessels arriving from sea, and having any infectious or contagious disease on board, to come to an anchor as required by the first article of this ordinance, and immediately notify the mayor of this city thereof; and the mayor shall immediately notify the Board of Health of the arrival of such vessel, whose duty it shall be to proceed on board of such vessel and examine the persons affected, and report the result of the examination to the mayor; and any owner, master or commander of a vessel refusing or neglecting to comply with the provisions of this article, shall pay a fine of one hundred dollars.

'ART. 5. *Be it further ordained*, That whenever any vessel having any infectious or contagious disease on board, shall have been anchored as directed by this ordinance, it shall not *be lawful* for any person or persons to remove such vessel from her anchorage until the owner, master or commander of such vessel shall have first *procured* to that effect a written permit from the mayor of this city; and it shall be the duty of the mayor, prior to granting such permit, to cause an examination of such vessel to be made by the Board of Health, and upon the Board of Health certifying in writing that all infectious or contagious disease has disappeared from such vessel, he shall grant permission to such vessel to remove from the anchorage and moor at any of the wharves; and each and every person or persons removing or attempting to remove any vessel or vessels from the anchorage as aforesaid, shall pay a fine of one hundred dollars

'ART. 6. *Be it further ordained*, That the fines and penalties imposed by this ordinance shall be recoverable before any competent tribunal, for the benefit of the Board of Health of the city of New Orleans.

'ART. 7. *Be it further ordained*, That the printer of this Council shall print one thousand copies of this ordinance and deliver the same

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to the mayor, and the mayor is requested to forward two hundred copies of the same to the branch pilots at the Balize and the Passes, with the request that they distribute the same to the captains and masters of vessels coming from sea.

'ART. 8. *Be it further ordained*, That all ordinances contrary to the provisions of this ordinance be, and the same are hereby, repealed.

(Signed) 'D. STICKNEY, *President*.

'Approved the 28th June, 1847.

(Signed) 'A. D. CROSSMAN, *Mayor*.

'A true copy.

'A. MAZUREAU, *Secretary*.'

VI. *Nuisances in general.*

These consist of every species of agent that can vitiate air and water. We have labored for years to have some of them corrected. The consequence of depositing on the bank of the river the contents of privies, decayed or putrefying fish, flesh and fowl, from the markets; damaged flour, potatoes and fruit, rotten hides,—to which we may add, as an occasional incident, dead horses, mules, etc.,—have been pointed out year after year. It has been stated that, to this cause, a terrible and fatal epidemic was traced; that it has almost rendered the levee impassable at certain seasons of the year; that it has caused, more than anything else, the destruction of the captains and mates of ships moored at the wharfs of the first muncipality; that it has driven away four and five ships at a time, from the first to the second municipality. And yet the same nuisances exist, in spite of repeated remonstrance, and of warning as to the evil consequences as regards life, and the commercial and pecuniary interests of the municipality. These acts are committed in the darkness of night, when commissaries and health wardens are asleep.

Why are not such abominations, that pollute the atmosphere, impairing health or causing death, and inflicting various other injuries on the citizens, carried out into the middle of the river, and there deposited? We know of nothing that would contribute more to the health and general welfare of the first municipality, than abating this great nuisance on the bank of the river, and maintaining a constant drainage in the rear, by keeping the canals we have spoken of constantly free from all obstructions.

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Another nuisance has been repeatedly pointed out: the great delay that often occurs — often of days, and sometimes of weeks — in carrying off the mud that is raked up into heaps out of the gutters, and the barrels of offal from dwelling-houses, that are deposited on the side-walks.

Piles of oyster shells alongside of the oyster stands have also been pointed out as a most dreadful nuisance in warm and moist weather.

We have also spoken of the putrefying filth that collects under the rotting floors of the basement of houses; and of a similar nuisance in lots filled with fœtid water, polluting the atmosphere, and endangering the health of the whole neighborhood.

To obviate an evil complained of in the third municipality, where there is a manufactory of sulphuric acid, the Board of Health directed the chimney to be raised thirty feet. This has not been done, and complaints are increasing every day. We therefore recommend the Council of the third municipality to compel the parties concerned to remove the concern to some spot in the rear, where there will be no one to be suffocated by the sulphureous fumes.

The Gas Works have also been presented as a nuisance, it being alledged that the gases polluted the water of the Bayou St. John, destroyed the fish, and endangered the lives of families. On examination, this charge was found to be imaginary. The rank pollution of the Canal Girod was overlooked, and evils solely attributable to *that*, were referred to the Gas Works. No precaution that science can adopt to prevent the operations there from becoming a nuisance, is neglected by those who have charge of the institution. The water in the ditches which drain the seventh ward of the second municipality was found to be perfectly sweet, so far as gases from the institution in question are concerned. It is doubtful if anything of the kind ever passes beyond the limits of the yard; and, admitting the fact, it would be absorbed by the earth, or evaporated in the air, before it would advance one hundred yards in the direction of the bayou.

VIII. Nothing would more effectually relieve the city from the greatest and most dangerous nuisances, and consequently

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tend to improve the health of the community, and diminish the mortality, and enhance the value of real estate, swell the amount of our active, industrious population, and promote our commercial prosperity, than the system of SEWERAGE suggested by Dr. Barton in the last annual report of this Board.

As we can find nothing better to say on the subject, we shall quote from that report, in order to keep the question before the public.—'We have not been able to procure an estimate of the expense of a few leading covered drains, by which these important results would be obtained; but it is not too much to say that a perfect system of sewerage and drainage, embracing the city and neighborhood, would be cheap AT ANY PRICE, for they at once remove *all the known causes* of disease under the control of the public: filth of every kind, and almost every where, and undue moisture. * * * * * The benefits to be derived from sewerage are so palpable, from what has been said, and so clearly in accordance with all experience, that here it might safely be left. Nevertheless, it has been so forcibly put in the following statement of the examination of the distinguished Dr. T. Southwood Smith, before a committee of the House of Commons of England, that we thought we could not do better than make a short extract from it. He declares that in every district in which fever returns frequently and prevails extensively, there is *uniformly bad sewerage*, a bad supply of water, a bad supply of scavengers, and a constant accumulation of filth.'

The experience of every enlightened physician must assuredly confirm the truth of the foregoing remarks of Dr. Smith. And we repeat that, in comparison with a judicious system of sewerage and drainage, all other measures would be of secondary importance in their tendency to banish sickness from the city. We therefore earnestly recommend this important suggestion to the deliberate consideration of the enlightened portion of the community, including our municipal authorities. New York, Philadelphia and Boston have all profited immensely by the millions their citizens have expended on works of a similar and kindred nature, and why should we fear or hesitate to follow their example?

In the absence of sewerage, we recommend the passage of an

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ordinance requiring the privies to be dug to the depth of *at least* fifteen feet. In certain parts of the city, where the surface is comparatively elevated, this would afford complete relief, and no cleansing, by removal, would be necessary; and in other parts, comparatively low, it would be productive of much benefit, especially if accompanied with an occasional free use of lime.*

Five years ago we contended that New Orleans, instead of being, as it is called, the graveyard of the South-west, might be rendered one of the healthiest cities of our great republic, at all seasons of the year, and even for unacclimated persons who would act prudently, refraining from vicious indulgence of appetite.

In the September number of the *Journal* of the year 1845, the late Professor Harrison, than whom we know no higher authority, and whose opinions on all matters connected with the science of Medicine are entitled to our highest respect, writes as follows:† 'To those at a distance, the mention of New Orleans calls up the ideas of disease and death as inseparable associations; yet, during eight months of the year, there is not, perhaps, a healthier city in the Union. In the four remaining months we are liable to suffer from yellow fever.'

In relation to this subject of yellow fever, and the practicability of warding off its deadly assaults, Dr. Harrison had previously recorded his opinion in the Physico-Medical Society.

We will quote from the proceedings of the Society at a regular meeting held Saturday evening, 15th February, 1845. The quotation is part of a series of resolutions, all of which were unanimously adopted, Professor Harrison being present.

'The Committee, in conclusion, sum up this report, by declaring—

'That they believe the Yellow Fever to be a disease of local or domestic origin:

'That it is never contagious:

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* It is due to our distinguished colleague, Dr. Barton, to state that he dissents from our suggestions in relation to privies. It is worth while, however, trying the experiment, until we can establish an enlightened system of sewerage. [*H. and K.*

† In relation to the salubrity of the climate, as evinced by obituary reports, etc., there may be a shade of difference between ourselves and our colleague. It amounts to nothing, however, as it altogether depends upon the peculiar manner in which we form our estimates on the subject.—*H. and K.*

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'That it may be made to yield to judicious police regulations: * * * * They therefore recommend—

'1st; That the commissaries in each ward be required to look into back yards and lots,* and be authorized to cause every thing offensive to be promptly removed:

'2d; That the different Councils should exert themselves to the utmost, in their official capacity, to have the surface of the earth covered over with something, to prevent the exhalations from the alluvial soil on which the city is built—either round or paving stones, or bricks, or shells and sand, or asphaltum:

'3d; That the owners should be compelled by law to fill up all low, swampy lots, within the limits of the city:

'4th; That all offal in the streets should be promptly removed, and, if possible, before the heat of the day:

'5th; That whenever the river is high, the water should be allowed to run through the streets day and night; and that when it is too low, the water-works, and, if necessary, additional works established for the purpose, should be brought into play:

'6th; That, above all, particular attention should be paid by the city authorities to the alluvial bank, particularly under the wharves of the second municipality, which is annually uncovered as the river falls, exposing an immense surface of fresh deposit, covered with every kind of decaying vegetable and animal matter, which daily accumulate, either carried there by eddy currents of the river, or thrown in by the inhabitants: * * *

* * * '7th; That, instead of depositing the filth and offal collected in the streets by the scavengers, in empty lots, or in the rear of the city, it is recommended to the city authorities to have such filth and offal thrown into the current of the river.

'They would also observe, that the measures first recommended would not be attended with one-fourth of the expense of a quarantine establishment, properly conducted; while, should they be pushed forward with energy, the time might, and no doubt would, ere long arrive, when New Orleans would no longer be within the yellow fever region; and consequently exempt, not only from that pestilence, but from all other fatal diseases of the Summer and Fall peculiar to our climate and to our position.

'This accomplished, what would there remain to retard the growth and prosperity of the city? She would speedily accomplish her high destiny, and in less than a quarter of a century become one of the most wealthy, prosperous and populous cities in the western hemisphere.'

* The service so efficiently performed by the health wardens in 1850.

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The measures here recommended, together with sewerage and drainage, are the means we suggest for improving the health of the city, and to a deliberate consideration of them we earnestly request the serious attention of the municipal authorities.

Having disposed of the subject of nuisances, and the remedy for the same, we come to our ninth point—*the granting of certificates for burial.* But this question has been anticipated in the very commencement of the report, and we have but little to add, except urging it upon the attention of our fellow citizens. If we cannot attain to the perfection of the French system (and we see no reason why we should not), let us at least endeavor to approximate as near to it as the circumstances of the case will admit, at this present period of our civilization, and sense of moral obligation.

X. We consider the interesting paper written and published by Dr. Fenner, in the first volume of the *Southern Medical Reports*, on the subject of poisoning by lead, as *one* that fairly claims the attention of the Board of Health. We would not call the colic produced by it an *epidemic*, yet we are convinced by experience and observation that traces of lead can be found in hydrant-water, in soda-water, in ginger or sassafras beer, and in other beverages concocted for the thirsty during our prolonged summers.

We can avouch for the propriety of the chemical agents used as tests by Dr. Fenner to discover the traces of lead in the beverages of which we have just spoken. We have confirmed, by our experiments in the laboratory, the results announced in the report; and we have seen and *felt* enough of colic, produced by drinking the said fluids, to deem the subject worthy of the attention of the mayor and city councils.

Where soda-water is sold with great rapidity, as at Stevenson's, there is no time for it to be vitiated, either by copper or lead, in its rapid preparation in a copper vessel, and transmission through lead pipes; but there are many establishments in every part of the city where the sale of such articles is comparatively very slow. In such cases the presence of lead can, without doubt,

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be detected in the soda-water, etc., and the continued use of such beverages will produce, with very few exceptions, severe colic.

We have already spoken of the expediency and propriety of having the act of the legislature amended so as to permit the annual appointment, by the Board of Health, of one of its members, as sole boarding physician of the port, and we have assigned our reasons for the same. We have also once more pointed out the necessity of some cheap building being provided as a temporary hospital for immigrants arriving in our port, afflicted with ship fever, or scarlet fever, or small-pox. The interests of the community and the claims of humanity alike demand it.

We recommend that, instead of ordering vessels to be anchored in the stream until visited by the boarding officer, in which position it is always difficult, and sometimes impossible, to board them, the ordinance be amended so as to authorize the ship to come alongside of the bank on the same side of the river as the city, and a certain distance below it, where it would be at all times accessible, when the passengers could be examined and disposed of, and where the vessel could be detained until properly cleansed and furnished by the proper officer with a clean bill of health.

In case of the necessary detention of persons affected with contagious diseases, it should be made the duty of the boarding officer to attend them regularly and faithfully.

In the course of the summer a communication was received from the mayor of St. Louis, complaining of the shamefully over-crowded condition of the immigrants on board the river steamers, aggravating and developing disease, so as to compel the authorities of that city, for the safety of its inhabitants, to adopt a most rigid system of quarantine, to the injury of the sick, the annoyance and suffering of the well and the convalescent passengers, and causing, by the detention of the steamer, loss to her owners.

We were aware of the existence of a law of Congress, regulat-

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ing the number of passengers according to the tonnage of the ship — in the proportion of two passengers to every five tons — but at that time the act did not refer to the steamers on our rivers or on the northern lakes. A memorial was, however, without delay, forwarded to Congress on the subject,* and we understand, although we have not had an opportunity of seeing the law, that it has been amended according to the suggestions contained in the memorial.

We do not pretend to aver that the Board has done all it might have done, when watching over the interests of this great community; but we believe that it has done what its limited means enabled it to accomplish. We have had to stand in the front ranks and bear the brunt of battle, when defective legislation has deprived us of half our armor and weapons, and municipal authorities have been but cold and doubtful allies.

* By the Board of Health.

The following Tables have been carefully compiled from those accompanying the Annual Report of the Board of Health for 1850. The necessity of arranging them in such form that their correctness may be verified, and the desire to show the terms used by the profession and retained by the Board, has caused the insertion of the first Table. The second Table will show the prevalence of the most important diseases in the different seasons and months of the year. The third Table, showing the classes of the community among whom the deaths from the most important diseases occurred, will be of great value after the census returns have been digested, and the numbers of the different classes of the population accurately determined. To the total has been added certain omissions which the Board of Health has not noticed. It is hoped that these Tables will contribute to the elucidation of the sanitary condition of New Orleans.

J. C. SIMONDS, M.D.

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A CLASSIFIED TABLE OF THE DEATHS IN NEW ORLEANS AND LAFAYETTE, DURING THE YEAR 1850:

Arranged from the Tables accompanying the Report of the Board of Health, with the addition to the total of the Omitted Deaths; every designation in said Tables being carefully preserved, to show the terms and synonymes used.

TOTAL .....8086.

Unknown 495
Omitted 272
Unspecified ...——767
Specified 7319
——8086

A. Zymotic 3323
B. Sporadic 3586
C. External 410
——7319

I. Epidemic ...1013
II. Endemic ...2181
III. Monoxysmal, 129
——3323

IV. Variable.... 548
V. Nervous ...1068
VI. Respiratory, 908
VII. Circulatory, 71
VIII. Digestive... 489
IX. Urinary 15
X. Of males... 1
XI. Of females.. 57
XII. Locomotive, 23
XIII. Integumentary, 8
XIV. Of Senses .. —
XV. Old Age.... 74
XVI. Still-Born .. 324
——3586

Casualties.. 248
Exopathic.. 33
Esopathic.. 120
Treatment. 9
—— 410

CLASS I.

Cholera 793
" Asiatic 167
" asphyxia.. 14
" morbus ... 39
—1013

CLASS II.

Cholera.....355
" Asiatic 111
" asphyxia .. 8
" morbus 30
— 504
Diarrhœa 224
" chronic .. 66
— 290
Dysentery.....285
" chronic .. 53
— 338
Fever 163
" bilious 41
" swamp ... 1
" remittent . 85
" *remittent* 127
" ague 1
" *intermittent*, 45
— 46
" continued. 4
" putrid 2
" congestive 128
" *malignant* ...134
Typhus icterodes, 2
Fever, yellow . ..107
—109
Fever, typhoid 103
" ataxic 4
" nervous .. 8
" typhus 195
Typhus abdominalis .... } 2

Carried up....1132

Brought up....1132
Fever, typhus 209
Fever, bone 2
Fevers, endemic 893
Erysipelas 10
Influenza 3
Catarrh 15
" pulmonary ..18
Catarrh 36
Aphtha 2
Thrush 2
— 4
Cholera infantum 73
Cynanche trachealis, 1
Croup 32
— 33
TOTAL.....2181

CLASS III.

Pertussis 13
Measles 57
Angina maligna 1
Scarlatina 21
— 22
Small-pox 36
Parotitis 1
TOTAL..... 129

CLASS IV.

Anemia 14
Atrophy 6
" infantile 2
Marasmus.....76
Tabes mesenterica ..11
Marasmus .....—95
Teething 137
Debility, ... 171
Anasarca 3
Dropsy 63
— 66

Carried up....483

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A CLASSIFIED TABLE OF DEATHS IN NEW ORLEANS, ETC.—*continued.*

Brought up	483	Brought up	791	CLASS VII.	
Hemorrhage	10	*Tetanus*	66	Arteries, ossified	1
Congestion	1	" traumatic	5	*Heart, hypertrophy* of,	22
Abscess	2		71	" enlargement of,	1
" of abdomen	3	*Trismus Nascentium*	163		23
	5	Paraplegia	1	" aneurism of	2
Gangrene	5	Hemiplegia	1	" ossified	1
" of foot	1	*Paralysis*	17	" *disease of*	28
" of leg	3		19		31
	9	Brain, cancer of	1	Carditis, chronic	1
Fungus Hæmatodes,	1	" disease of	5	Endo-carditis	3
Cancer	5	" softening of	7	" pericarditis	1
	6	" ulceration of	1	Hydro-carditis	1
Scrofula	13	Head, disease of	5	" pericarditis	10
Sudden	2		19		16
Asphyxia	2	Myelitis	1		
Stricture	1	Meningitis, spinal	1	Total	71
Disease, chronic	16	" cer. "	3		
	21		5		
Total	548	Total	1068		

CLASS V.		CLASS VI.		CLASS VIII.	
Hemorrhage, cereb.	8	Tonsilitis	1	Glossitis	1
Apoplexy	107	*Laryngitis*	11	*Gastritis*	21
	115	*Bronchitis*	36	" chronic	8
Congestion of Brain	101	" chronic,	3		29
Arachnitis	3		39	*Gastro-enteritis*	96
Cerebritis	84	*Pleurisy*	17	" chronic	6
Encephalitis	16	*Pleuro-pneumonia*	9	" colitis	3
Meningitis	60	Peri-pneumonia	1		105
" tubercular,	1		10	*Enteritis*	156
" encephalitis,	2	*Pneumonia*	110	" chronic	10
Phrenitis	4	" typhoid,	5	Colitis	4
Cephalitis	170	Lungs, congestion of,	8	" acute	2
Hydrocephalus	19		121	" chronic	1
" acute	2	Abscess, lungs	1	Entero-colitis	7
Brain, dropsy of	6	Hemoptysis	6	" peritonitis	1
" effusion of	5	*Consumption*	674	Ileus	2
Ventricles, " in	1		681		183
	33	Hydro-thorax	6	*Colic*	8
Insane	1	Hydro-pneumothorax,	1	" bilious	6
Grief	1	Lungs, effusion of	2	" painters'	1
Insanity	2	*Hydro-thorax*	9		15
Epilepsy	16	*Asthma*	9	Indigestion	4
Eclampsia	3	Larynx, cancer of	1	Hemorrhage, intestinal,	1
Convulsions	351	Lungs, gangrene of,	3	Bowels, ulcerated	8
	354	" apoplexy of,	5	Intestines "	2
		" disease of	1	Rectum "	2
			10	" obliteration of.	1
				" gangrene of	1
		Total	908	Stomach " of	1
				" engorged	1
					16
Carried up	791			Carried up	354

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A CLASSIFIED TABLE OF DEATHS IN NEW ORLEANS, ETC.—*continued.*

Brought up	354
Tongue, cancer of	1
Stomach "	2
Intestines "	1
	— 4
Worms	10
Hernia	1
" strangulated	1
	— 2
Ascites	39
Peritonitis	18
Icterus	7
Jaundice	8
	— 15
Hepatitis	27
" chronic	6
Gastro-hepatitis	2
	— 35
Abscess, hepatic	8
Splenitis	1
Spleen, rupture of	3
	— 4
TOTAL	489

CLASS IX.

Albuminuria	2
Hematuria	1
Kidneys, disease	2
Urinary abscess	1
Nephritis	1
Syphilis	5
Bladder, disease of	3
TOTAL	15

CLASS X.

Stricture	1

CLASS XI.

Breast, abscess	1
" cancer	1
" scirrhus	1
	— 3
Hysteria	2
Amenorrhœa	2
Metritis	5
Utero-peritonitis	1
Uterus, cancer of	3
" polypus	1
" disease of	4
	— 14
Carried up	21

Brought up	21
Accouchement	17
Fever, puerperal	13
Enteritis "	3
Hemorrhage "	3
	— 19
TOTAL	57

CLASS XII.

Rheumatism	15
" chronic	1
	— 16
Gout	1
Osteo-sarcoma	1
Femur, caries of	1
	— 2
Psoas abscess	1
Spine disease	1
	— 2
Spina bifida	2
TOTAL	23

CLASS XIII.

Ulcer	4
Anthrax	1
Carbuncle	2
	— 3
Leprosy	1
TOTAL	8

CLASS XIV.

Of organs of sense	00

CLASS XV.

Old Age	74

CLASS XVI.

Heart, malformation of,	1
Birth, premature	35
Still-born	288
Still-born	324

CLASS XVII.

Fractures	3
Leg, fracture of	1
Pelvis "	1
Thigh "	3
Femur "	1
Skull "	8
Fractures	— 17
Head, injury of	7
Brain, concussion of	8
Carried up	17

Brought up	17
Brain, compression of,	5
	— 20
Accidental	16
Ictus solis	1
Sun-stroke	67
	— 68
Drowned	97
Burns	19
Scalds	11
	— 30
TOTAL	248

CLASS XVIII.

Foot, wound of	1
Wound, penetrating	9
" gunshot	7
Arteries, carotid, cut	1
Lungs, laceration of	1
Wounds	— 19
Strangulation	4
Suffocation	3
	— 7
Suffocated	
Poisoned	2
" by chloroform	1
" laudanum	3
" morphine	1
Poisoned	7
TOTAL	33

CLASS XIX.

Delirium tremens	72
Intemperance	31
Oinomania	103
Syphilis	5
" secondary	2
	— 7
Suicide	10
TOTAL	120

CLASS XX.

Amputation	1
Leg "	6
	— 7
Medicine, improper use of	2
TOTAL	9
Uncertain	495

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A CLASSIFIED TABLE OF THE DEATHS IN NEW ORLEANS AND LAFAYETTE, DURING THE YEAR 1850:

Showing for each Disease, and Class of Diseases, the Total Mortality, and that of each Season and Month of the Year.

	TOTAL.	WINTER.	SPRING.	SUMMER.	AUTUMN.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER	OCTOBER.	NOVEMBER.
TOTAL.....	8086.															
Uncertain..... 495		106	151	126	112	37	29	40	55	52	44	37	54	35	33	35
Omitted 272																
Unspecified ...—— 767																
Specified.....7319		1748	1404	2011	2156	543	396	809	427	544	433	536	858	617	588	857
	8086															
A. Zymotic.....3323		936	514	775	1098	278	126	532	159	195	160	159	333	283	240	493
B. Sporadic 3586		742	811	1069	964	245	243	254	239	323	249	315	448	306	321	338
C. External 410		70	79	167	94	20	27	23	29	26	24	62	77	28	27	26
	7319															
I. Epidemic 1013		415			598			415								367
II. Endemic 2181		482	460	752	487	264	112	106	153	170	137	147	324	281	235	123
III. Monoxysmal . 129		39	54	23	13	14	14	11	6	25	23	12	9	2	5	3
	3323															
IV. Variable 548		99	127	165	157	45	22	32	36	46	45	61	62	42	49	62
V. Nervous.....1068		176	230	409	253	57	63	56	63	90	77	93	197	119	91	92
VI. Respiratory .. 908		233	213	198	264	74	77	82	61	92	60	58	79	61	78	92
VII. Circulatory .. 71		22	17	16	16	5	7	10	4	6	7	4	8	4	9	7
VIII. Digestive 489		101	117	149	122	30	30	41	43	48	26	51	57	41	41	41
IX. Urinary 15		6	2	4	3	2	1	3	1	1		2	1	1	1	1
X. Of Males 1					1											
XI. Of Females .. 57		7	15	19	16	4	2	1	3	6	6	9	4	6	6	4
XII. Locomotive .. 23		5	7	5	6	1	3	1	3	2	2	1	4			2
XIII. Integumentary, 8		2	2	4		1	1		2				1	3		
XIV. Of senses																
XV. Old age..... 74		15	16	17	26	5	6	4	6	8	2	5	6	6	3	7
XVI. Still-born 324		76	65	83	100	21	31	24	17	24	24	31	29	23	43	30
	3586															
XVII. Casualties ... 248		28	45	121	54	6	14	8	14	14	17	42	60	19	12	14
XVIII. Exopathic.... 33		7	6	10	10	1	3	3	4	1	1	7	2	1	3	2
XIX. Esopathic 120		32	28	34	26	11	9	12	11	11	6	13	13	8	11	8
XX. Treatment ... 9		3		2	4	2	1	..	..	..	..	..	2	..	1	2
	410															

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A CLASSIFIED TABLE OF DEATHS IN NEW ORLEANS, ETC.—*continued.*

DISEASES.	TOTAL.	WINTER.	SPRING.	SUMMER.	AUTUMN.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER	OCTOBER.	NOVEMBER.	DECEMBER.
CLASS I.																	
Cholera	1013	415	..	..	598	..	..	415	..	..	..	..	..	..	..	367	231
CLASS II.																	
Cholera	504	157	181	65	101	128	29	..	75	66	40	12	8	45	101		
Diarrhœa	290	75	77	54	84	29	25	21	25	22	30	20	12	22	18	34	32
Dysentery	338	71	67	91	109	35	12	24	17	29	21	29	31	31	42	31	36
Fevers	893	134	89	520	150	57	36	41	28	28	33	75	268	177	65	12	43
Erysipelas	10	1	2	2	5	..	..	1	1	1	..	1	..	1	1	2	2
Influenza	36	18	10	3	5	9	4	5	2	5	3	2	1	..	3	1	1
Thrush	4	..	3	1	....	..	..	..	..	3	..	..	..	1			
Cholera infantum	73	11	25	13	24	1	1	9	5	11	9	7	4	2	4	9	11
Croup	33	15	6	3	9	5	5	5	..	5	1	1	..	2	1	4	4
TOTAL	2181	482	460	752	487	264	112	105	153	170	137	147	324	281	235	123	129
CLASS III.																	
Pertussis	13	2	4	1	6	..	2	..	..	1	3	..	..	1	3	2	1
Measles	57	9	32	12	4	2	3	4	2	19	11	8	4	..	1	1	2
Scarlatina	22	2	11	7	2	..	1	1	..	4	7	2	4	1	1	..	1
Variola	36	25	7	3	1	11	8	6	4	1	2	2	1	..	..	..	1
Mumps	1	1	..	..	....	1											
TOTAL	129	39	54	23	13	14	14	11	6	25	23	12	9	2	5	3	5
CLASS IV.																	
Scrofula	13	2	4	3	4	1		1	1	2	1	1	2	..	1	2	1
Marasmus	95	13	27	25	30	6	3	4	10	7	10	7	12	6	9	12	9
Teething	137	20	36	49	32	10	4	6	8	12	16	20	17	12	11	9	12
Debility	171	29	34	54	54	9	5	15	11	14	9	18	21	15	14	24	16
Dropsy	66	18	11	15	22	6	7	5	2	5	4	7	4	4	7	9	6
Other diseases	66	17	15	19	15	13	3	1	4	6	5	8	6	5	7	6	2
TOTAL	548	99	127	165	157	45	22	32	36	46	45	61	62	42	49	62	46
CLASS V.																	
Apoplexy	115	27	19	50	19	7	13	7	4	9	6	11	31	8	8	5	6
Congestion of brain	101	8	14	57	22	3	2	3	3	6	5	8	34	15	8	6	8
Cephalitis	170	25	45	68	32	4	7	14	12	16	17	21	28	16	7	16	9
Hydrocephalus	33	3	16	9	5	3	..	..	6	4	6	1	5	3	2	1	2
Epilepsy	16	2	4	9	1	..	1	1	..	2	2	5	2	2	1		
Convulsions	354	50	68	131	105	20	16	14	21	26	21	16	68	47	41	38	23
Carried up	879	115	166	324	184	37	39	39	46	63	57	65	168	91	70	66	48

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A CLASSIFIED TABLE OF DEATHS IN NEW ORLEANS, ETC.—*continued.*

DISEASES.	TOTAL.	WINTER.	SPRING.	SUMMER.	AUTUMN.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER	OCTOCER.	NOVEMBER.	DECEMBER.
Brought up....	879	115	166	324	184	37	39	39	46	63	57	65	168	91	70	66	48
Tetanus	71	19	18	15	19	7	5	7	2	7	9	2	7	6	4	11	4
Trismus Nascentium,	163	36	29	57	41	10	17	9	8	13	8	20	16	21	13	13	15
Paralysis	19	3	7	5	4	1	1	1	3	2	2	..	4	1	2	..	2
Other diseases	26	3	10	8	5	2	1	..	4	5	1	6	2	..	2	2	1
TOTAL	1068	176	230	409	253	57	63	56	63	90	77	93	197	119	91	92	70
CLASS VI.																	
Laryngitis	11	..	3	7	1	..	..	..	1	1	1	1	3	3	..	1	
Bronchitis	39	14	9	7	9	4	7	3	2	4	3	1	3	3	4	3	2
Pleurisy	17	6	6	2	3	2	2	2	2	3	1	1	1	..	1	2	
Pleuro-pneumonia ...	10	5	2	..	3	..	2	3	..	2	..	..	..	..	..	3	
Pneumonia	121	36	31	27	27	12	8	16	10	13	8	9	10	8	9	9	9
Consumption	681	167	156	144	214	56	55	56	46	66	44	44	57	43	63	73	78
Other diseases	29	5	6	11	7	..	3	2	..	3	3	2	5	4	1	1	5
TOTAL	908	233	213	198	264	74	77	82	61	92	60	58	79	61	78	92	94
CLASS VII.																	
Circulatory	71	22	17	16	16	5	7	10	4	6	7	4	8	4	9	7	
CLASS VIII.																	
Gastritis	29	3	10	10	6	..	..	3	6	4	..	2	4	4	2	1	3
Gastro-enteritis	105	26	25	27	27	4	9	13	6	13	6	8	13	6	8	17	2
Enteritis	183	32	38	61	52	15	11	6	14	13	11	24	22	15	14	15	23
Colic	15	1	5	6	3	..	..	1	2	3	..	1	2	3	..	2	1
Worms	10	3	3	2	2	1	1	1	..	3	..	..	2	..	..	1	1
Ascites	39	12	6	9	12	4	5	3	4	1	1	1	5	3	5	1	6
Peritonitis	18	2	5	7	4	..	1	1	4	1	..	2	1	4	1	1	2
Other diseases	28	5	11	5	7	1	..	4	4	2	5	3	2	..	4	1	2
Hepatitis	15	6	1	5	3	..	1	5	1	..	..	3	..	2	3		
Jaundice	35	11	9	10	5	5	2	4	1	6	2	3	6	1	4	1	
Diseases of Liver	8	..	4	3	1	..	..	..	1	2	1	1	..	2	..	1	
" Spleen	4	..	..	4	..	..	..	..	..	..	..	3	..	1			
TOTAL	489	101	117	149	123	30	30	41	43	48	26	51	57	41	41	41	40
CLASS IX.																	
Urinary	15	6	2	4	3	2	1	3	1	1	..	2	1	1	1	1	1
CLASS X.																	
Of males	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1

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A CLASSIFIED TABLE OF DEATHS IN NEW ORLEANS, ETC.—*continued.*

DISEASES.	TOTAL.	WINTER.	SPRING.	SUMMER.	AUTUMN.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER	OCTOBER.	NOVEMBER.	DECEMBER.
CLASS XI.																	
Child-birth	17	1	3	7	6	1	..	..	..	2	1	3	2	2	3	2	1
Puerperal diseases	19	2	4	9	4	1	.	1	1	..	3	5	2	2	..	..	4
Other diseases	21	4	8	3	5	2	2	..	2	4	2	1	..	2	3	2	1
TOTAL	57	7	15	19	16	4	2	1	3	6	6	9	4	6	6	4	6
CLASS XII.																	
Rheumatism	16	4	5	4	3	1	3	..	3	1	1	1	3	..	..	1	2
Other diseases	7	1	2	1	3	..	..	1	..	1	1	..	1	..	..	1	2
TOTAL	23	5	7	5	6	1	3	1	3	2	2	1	4	..	..	2	4
CLASS XIII.																	
Integumentary	8	2	2	4	..	..	2	..	2	..	..	..	1	3			
CLASS XIV.																	
Of Senses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CLASS XV.																	
Old age	74	15	16	17	26	5	6	4	6	8	2	5	6	6	3	7	16
CLASS XVI.																	
Still-born	324	76	65	83	100	21	31	24	17	24	24	31	29	23	43	30	27
CLASS XVII.																	
[illegible]	53	9	13	11	20	..	7	2	6	4	3	4	2	5	5	3	12
[illegible]oke	68	..	5	63	..	..	..	..	..	..	5	19	42	2	..	..	..
[illegible]	97	11	23	45	18	4	3	4	8	8	7	18	15	12	7	8	3
[illegible] and scalds	30	8	4	2	16	2	4	2	..	2	2	1	1	..	..	3	13
TOTAL	248	28	45	121	54	6	14	8	14	14	17	42	60	19	12	14	28
CLASS XVIII.																	
[illegible]	19	2	2	7	8	..	1	1	1	1	..	5	2	..	1	2	5
[illegible]ated, &c.	7	4	2	..	1	..	2	2	2	..	..	..	..	..	1	..	..
[illegible]	7	1	2	3	1	1	..	..	1	..	1	2	..	1	1	..	..
TOTAL	33	7	6	10	10	1	3	3	4	1	1	7	2	1	3	2	5
CLASS XIX.																	
[illegible] Tremens	72	19	20	20	13	5	5	9	9	8	3	6	7	7	6	4	3
[illegible]ance	31	8	6	10	7	4	3	1	1	2	3	4	5	1	1	2	4
[illegible]	7	3	1	1	2	1	..	2	1	..	..	..	1	..	2	..	..
[illegible]	10	2	1	3	4	1	1	..	..	1	..	3	..	..	2	2	..
TOTAL	120	32	28	34	26	11	9	12	11	11	6	13	13	8	11	8	7
CLASS XX.																	
Treatment	9	3	..	2	4	2	1	..	..	..	..	..	2	1	..	2	1

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A CLASSIFIED TABLE OF THE DEATHS IN NEW ORLEANS AND LAFAYETTE, DURING THE YEAR 1850:

Showing for each Disease, and Class of Diseases, the total Mortality, and that of each Class of the Community, according to Color, Sex, Age, etc.

	TOTAL.	WHITES.				COLORED.				WHITES.	COLORED.	MALES.	FEMALES.	ADULTS.	CHILDREN.
		MALES.		FEMALES.		MALES.		FEMALES.							
		Adult.	Children	Adult.	Children	Adult.	Children	Adult.	Children						
TOTAL	8086.														
Uncertain 495		83	146	65	95	21	39	14	32	389	106	289	206	183	312
Omitted 272															
Unspecified — 767															
Specified 7319		2630	1154	1236	920	400	336	365	278	5940	1379	4520	2799	4631	2688
	8086														
A. Zymotic 3323		1427	397	710	305	175	93	118	98	2839	484	2092	1231	2430	893
B. Sporadic 3586		907	746	483	610	193	235	237	175	2746	840	2081	1505	1820	1766
C. External 410		296	11	43	5	32	8	10	5	355	55	347	63	381	29
	7319														
I. Epidemic 1013		419	120	207	69	77	31	58	32	815	198	647	366	761	252
II. Endemic 2181		995	242	497	195	91	47	59	55	1929	252	1375	806	1642	539
III. Monoxysmal 129		13	35	6	41	7	15	1	11	95	34	70	59	27	102
	3323														
IV. Variable 548		99	151	67	130	27	34	15	25	447	101	311	237	208	340
V. Nervous 1068		197	311	78	232	41	89	42	78	818	250	638	430	358	710
VI. Respiratory 908		386	54	184	69	68	27	96	24	693	215	535	373	734	174
VII. Circulatory 71		27	2	13	6	7	4	12	..	48	23	40	31	59	12
VIII. Digestive 489		159	78	78	71	37	26	24	16	386	103	300	189	298	191
IX. Urinary 15		8	2	2	..	1	1	1	..	12	3	12	3	12	3
X. Of Males 1		1	....	....	..	..	..	..	..	1	...	1	...	1	
XI. Of Females 57		1	1	40	5	..	..	9	1	47	10	2	55	50	7
XII. Locomotive 23		10	1	....	1	5	1	3	2	12	11	17	6	18	5
XIII. Integumentary, 8		3	....	4	..	..	..	1	..	7	1	3	5	8	
XIV. Of senses															
XV. Old age 74		16	....	17	..	7	..	34	..	33	41	23	51	74	
XVI. Still-born 324		....	146	....	96	..	53	..	29	242	82	199	125	...	324
	3586														
XVII. Casualties 248		174	10	22	5	21	7	5	4	211	37	212	36	222	26
XVIII. Exopathic 33		20	1	5	..	4	1	1	1	26	7	26	7	30	3
XIX. Esopathic 120		96	....	14	..	6	..	4	..	110	10	102	18	120	
XX. Treatment 9		6	....	2	..	1	..	..	..	8	1	7	2	9	
	410														

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A CLASSIFIED TABLE OF DEATHS IN NEW ORLEANS, ETC.—*continued.*

DISEASES.	TOTAL.	WHITES.				COLORED.				WHITES.	COLORED.	MALES.	FEMALES.	ADULTS.	CHILDREN.
		MALES.		F. MALES		MALES.		FEMALES							
		Adult.	Children	Adult.	Children	Adult.	Children	Adult.	Children						
CLASS I.															
Cholera	1013	419	120	207	69	77	31	58	32	815	198	647	366	761	252
CLASS II.															
Cholera	504	226	47	130	27	36	6	23	9	430	74	315	189	415	89
Diarrhœa	290	138	30	62	25	13	8	6	8	255	35	189	101	219	71
Dysentery	338	136	49	69	43	16	10	8	7	297	41	211	127	229	109
Fevers	893	186	61	235	48	24	9	20	10	830	63	580	313	765	128
Erysipelas	10	7	..	1	1	..	1	..	..	9	1	8	2	8	2
Influenza	36	1	6	..	4	2	8	2	13	11	25	17	19	5	31
Thrush	4	..	2	..	2	..	..	..	..	4	..	2	2	....	4
Cholera infantum	73	..	32	..	32	..	4	..	5	64	9	36	37	....	73
Croup	33	1	15	..	13	..	1	..	3	29	4	17	16	1	32
TOTAL	2181	995	242	197	195	91	47	59	55	1929	252	1375	806	1642	539
CLASS III.															
Pertussis	13	..	1	..	6	..	2	..	4	7	6	3	10	....	13
Measles	57	..	23	1	22	..	9	..	2	46	11	32	25	1	56
Scarlatina	22	1	4	4	10	..	1	..	2	19	3	6	16	5	17
Variola	36	12	7	1	3	6	3	1	3	23	13	28	8	20	16
Mumps	1	..	..	..	..	1	..	..	..	....	1	1	....	1	....
TOTAL	129	13	35	6	41	7	15	1	11	95	34	70	59	27	102
CLASS IV.															
Scrofula	13	1	4	2	1	1	1	2	1	8	5	7	6	6	7
Marasmus	95	9	37	12	24	1	7	1	4	82	13	54	41	23	72
Teething	137	..	60	..	49	..	16	..	12	109	28	76	61	....	137
Debility	171	39	39	22	49	8	4	4	6	149	22	90	81	73	98
Dropsy	66	23	4	16	4	10	1	6	2	47	19	38	28	55	11
Other diseases	66	27	7	15	3	7	5	2	..	52	14	46	20	51	15
TOTAL	548	99	151	67	130	27	34	15	25	117	101	311	237	208	340
CLASS V.															
Apoplexy	115	63	1	21	1	15	..	12	2	86	29	79	36	111	4
Congestion of brain,	101	45	14	15	9	6	4	5	3	83	18	69	32	71	30
Cephalitis.	170	36	37	10	32	8	24	6	17	115	55	105	65	60	110
Hydrocephalus	33	2	15	..	14	..	1	1	..	31	2	18	15	3	30
Epilepsy	16	7	1	4	..	2	1	..	1	12	4	11	5	13	3
Convulsions.	354	11	152	7	125	3	28	3	25	295	59	194	160	24	330
Carried up	879	164	220	67	181	31	58	27	48	622	167	476	313	282	507

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A CLASSIFIED TABLE OF DEATHS IN NEW ORLEANS, ETC.—*continued.*

DISEASES.	TOTAL.	WHITES.				COLORED.				WHITES.	COLORED.	MALES.	FEMALES.	ADULTS.	CHILDREN.
		MALES.		FEMALES.		MALES.		FEMALES.							
		Adult.	Children	Adult.	Children	Adult.	Children	Adult.	Children						
Brought up....	879	164	220	67	181	34	58	27	48	622	167	476	313	282	507
Tetanus	71	24	8	9	12	4	7	6	1	53	18	43	28	43	28
Trismus Nascentium,	163	..	78	..	36	..	21	..	28	114	49	99	64	....	163
Paralysis	19	6	..	7	..	1	1	4	..	13	6	8	11	18	1
Other diseases	26	3	5	5	3	2	2	5	1	16	10	12	14	15	11
TOTAL	1068	197	311	78	232	41	89	42	78	818	250	638	430	358	710
CLASS VI.															
Laryngitis	11	4	..	2	2	2	..	..	1	8	3	6	5	8	3
Bronchitis	39	7	8	3	5	1	4	5	6	23	16	20	19	16	23
Pleurisy	17	5	..	3	..	5	..	4	..	8	9	10	7	17	....
Pleuro-pneumonia ...	10	4	1	2	1	..	1	1	..	8	2	6	4	7	3
Pneumonia	121	31	15	21	24	8	6	11	5	91	30	60	61	71	50
Consumption	681	320	30	147	35	52	16	69	12	532	149	418	263	588	93
Other diseases	29	15	..	6	2	..	..	6	..	23	6	15	14	27	2
TOTAL	908	386	54	184	69	68	27	96	24	693	215	535	373	734	174
CLASS VII.															
Circulatory	71	27	2	13	6	7	4	12	..	48	23	40	31	59	12
CLASS VIII.															
Gastritis	29	12	1	7	..	4	3	2	..	20	9	20	9	25	4
Gastro-enteritis	105	31	17	20	11	6	4	10	6	79	26	58	47	67	38
Enteritis	183	33	45	24	43	13	12	6	7	145	38	103	80	76	107
Colic	15	9	3	..	2	..	1	..	..	14	1	13	2	9	6
Worms.....	10	..	2	..	4	..	4	..	..	6	4	6	4	....	10
Ascites	39	27	..	8	2	1	..	1	..	37	2	28	11	37	2
Peritonitis	18	5	2	7	2	..	..	1	1	16	2	7	11	13	5
Other diseases	28	8	3	2	6	5	1	1	2	19	9	17	11	16	12
Jaundice	15	9	3	1	1	..	1	..	..	14	1	13	2	10	5
Hepatitis	35	15	2	9	..	6	..	3	..	26	9	23	12	33	2
Diseases of Liver	8	6	..	..	..	2	..	..	..	6	2	8	....	8	....
" Spleen ...	4	4	..	..	..	..	..	..	..	4	..	4	....	4	....
TOTAL	489	159	78	78	71	37	26	24	16	386	103	300	189	298	191
CLASS IX.															
Urinary	15	8	2	2	..	1	1	1	..	12	3	12	3	12	3
CLASS X.															
Of males	1	1	..	..	..	..	..	..	..	1	..	1	....	1	

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A CLASSIFIED TABLE OF DEATHS IN NEW ORLEANS, ETC.—*continued.*

DISEASES.	TOTAL.	WHITES.				COLORED.				WHITES.	COLORED.	MALES.	FEMALES.	ADULTS.	CHILDREN.
		MALES.		FEMALES.		MALES.		FEMALES.							
		Adult.	Children	Adult.	Children	Adult.	Children	Adult.	Children						
CLASS XI.															
Child-birth	17	..	..	13	..	..	..	4	..	13	4	....	17	17	
Puerperal diseases	19	..	..	13	5	..	..	..	1	18	1	....	19	13	6
Other diseases	28	1	1	14	..	..	..	5	..	16	5	2	19	20	1
TOTAL	57	1	1	40	5	..	..	9	1	47	10	2	55	50	7
CLASS XII.															
Rheumatism	16	5	1	..	..	4	1	3	2	6	10	11	5	12	4
Other diseases	7	5	..	..	1	1	..	..	..	6	1	6	1	6	1
TOTAL	23	10	1	.	1	5	1	3	2	12	11	17	6	18	5
CLASS XIII.															
Integumentary	8	3	..	4	..	..	..	1	..	7	1	3	5	8	
CLASS XIV.															
Of Senses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CLASS XV.															
Old age	74	16	..	17	..	7	..	34	..	33	41	23	51	74	
CLASS XVI.															
Still-born	324	..	146	..	96	..	53	..	29	242	82	199	125	....	324
CLASS XVII.															
Casualties	53	40	1	5	2	3	2	..	..	48	5	46	7	48	5
Sunstroke	68	57	..	10	..	1	..	..	..	67	1	58	10	68	
Drowned	97	66	7	3	1	15	2	3	..	77	20	90	7	87	10
Burns and Scalds	30	11	2	4	2	2	3	2	4	19	11	18	12	19	11
TOTAL	248	174	10	22	5	21	7	5	4	211	37	212	36	222	26
CLASS XVIII.															
Wounds	19	14	1	..	..	4	..	..	..	15	4	19	....	18	1
Suffocated, etc.	7	2	..	3	..	..	1	..	1	5	2	3	4	5	2
Poisoned	7	4	..	2	..	..	..	1	..	6	1	4	3	7	
TOTAL	33	20	1	5	..	4	1	1	1	26	7	26	7	30	3
CLASS XIX.															
Delirium Tremens	72	62	..	6	..	4	..	..	..	68	4	66	6	72	
Intemperance	31	24	..	4	..	1	..	2	..	28	3	25	6	31	
Syphilis	7	4	..	1	..	1	..	1	..	5	2	5	2	7	
Suicide	10	6	..	3	..	..	..	1	..	9	1	6	4	10	
TOTAL	120	96	..	14	..	6	..	4	..	110	10	102	18	120	
CLASS XX.															
Treatment	9	6	..	2	..	1	..	..	..	8	1	7	2	9	

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TABLE showing the AGES of those who died in the Cities of New Orleans and Lafayette in 1849 and 1850, as shown by the Tables accompanying the Reports of the Board of Health.

AGES.	1849. WHITE. Males.	1849. WHITE. Females.	1849. COLORED Males.	1849. COLORED Fems	1850. WHITE. Males.	1850. WHITE. Females.	1850. COLORED. Males.	1850. COLORED. Fems.	1849. TOTAL.	1850. TOTAL.	1849 and 1850. TOTAL.	Whites.	Colored.	Males.	Females.
Under 1 month	300	179	74	65	267	153	61	49	618	530	1148	899	249	702	446
1 m'th @ 1 year	248	225	84	57	332	276	105	90	614	803	1417	1081	336	769	648
1 year @ 5 "	367	336	98	102	384	340	105	88	903	917	1820	1427	393	954	866
5 " @ 10 "	154	117	36	35	109	88	26	26	342	249	591	468	123	325	266
10 " @ 15 "	255	139	78	58	52	45	15	14	530	126	935	723	212	547	388
15 " @ 20 "					128	104	19	28		279					
20 " @ 30 "	1352	435	126	78	784	419	83	56	1991	1342	3333	2990	343	2345	988
30 " @ 40 "	1125	330	87	61	756	318	67	51	1603	1192	2795	2529	266	2035	760
40 " @ 50 "	561	159	54	59	405	133	34	43	833	615	1448	1258	190	1054	394
50 " @ 60 "	222	84	28	48	184	71	28	38	382	321	703	561	142	462	241
60 " @ 70 "	102	37	19	34	90	54	27	20	192	191	383	283	100	238	145
70 " @ 80 "	38	31	13	19	32	34	8	26	101	100	201	135	66	91	110
80 " @ 90 "	8	14	11	15	9	11	7	17	48	44	92	42	50	35	57
90 " @ 100 "	1	4	2	13	1	3	4	11	20	19	39	9	30	8	31
Over 100 "	. .	. .	1	2	. .	. .	. .	1	3	1	4	. .	4	1	3
Specified .	4733	2090	711	646	3533	2049	589	558	8180	6728	14909	12405	2504	9566	5343
Age Unk'n { Children	813	338	325	206	122	92	60	46	2481*	1358*					
Age Unk'n { Adults,					327	155	147	78							

* Including those of whom the sex and

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ARTICLE III.

SPECIAL REPORT ON THE FEVERS OF NEW ORLEANS IN THE YEAR 1850.

BY THE EDITOR.

HAVING given, in the first volume of this work, my general views in regard to the various types of fever annually seen in New Orleans, I shall, on this occasion, confine myself pretty much to a statement of the principal relevant *facts* that were presented during the year, together with some account of the order and manner of their occurrence. If I am not deceived, the facts here presented tend strongly to confirm the position I have taken in regard to the relationship that subsists between the various types of endemic fever that appear in New Orleans; but of this the reader must judge. I desire nothing but *truth* in relation to the subject, and shall continue the investigation till I have fully satisfied my own mind, whether I succeed in convincing others or not. There are but few men of such high character as to entitle their mere opinions to much consideration. Dogmas proclaimed *ex cathedra* have long since lost their influence. In this inquiring age, we must know the *basis* of every bold opinion before we can respect it. What we now want, is a large amount of *authentic facts*, from which we may draw our own deductions — and he who collects them certainly performs an important service.

A glance at some of the principal facts relative to the fever of this city, will show the vast extent of their prevalence, and the importance of carefully investigating their cause, nature and treatment.

The following statistics are made out from the annual reports of the Board of Health and of the Charity Hospital.*

Nearly *one-eighth* of all the deaths in this city, during the year 1850, were caused by *fever;* total, 7819; fevers, 920.

Nearly *one-fourth* of the deaths in the city occurred in the Charity Hospital. Total, 7819; Charity Hospital, 1884.

Of all the deaths at the Charity Hospital, nearly *one-sixth* occurred from *fever*. Total, 1884; fevers, 318.

* Each of these Reports gives an alphabetical list of diseases containing some errors and omissions which are pointed out in Dr. Simonds' statistics, (q. v.) but they do not materially affect the points mentioned.

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Of all the deaths from *fever* in the city, about *one-third* occurred at the Charity Hospital. Total, 920; at the Charity Hospital, 318.

Of all the patients admitted into the Charity Hospital this year, more than *three-fifths* were for *fever*. Total admitted, 18,476; for fever, 11,768.

The mortality from fever this year is much less than the last, being 920 against 1370; whilst the number of cases was vastly greater, as is shown by the number of fever cases admitted into the Charity Hospital: admitted for fever in 1849, 7,591; admitted for fever in 1850, 11,768.

The following is a list of the admissions, discharges and deaths from the various types of *fever*, as specified in the annual report of the Charity Hospital for 1850.

FEVERS.	ADMITTED.	DISCHARGED.	DIED.
Fever, Intermittent	7,889	7,563	—
" Malignant Intermittent	34	2	28
" Congestive do.	10	1	7
" Congestive	30	9	30
" Remittent.....	2,276	1,876	26
" Malignant Remittent..	8	2	11
" Congestive do.	4	....	6
" Typhus	1,043	701	149
" " Congestive....	4	....	6
" Typhoid	208	162	34
" Continued.....	77	99	5
" " Malignant..	1	....	1
" Ephemeral	83	90	—
" Bilious.....	80	104	3
" Puerperal	4	....	5
" Scarlet	3	4	—
" Ataxic.....	4	1	2
" Yellow	9	6	4
" Dengue.....	1	1	—
" Mesenterica	....	....	1
TOTAL.....	11,768	10,621	318

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The following table will give a fuller account of the mortality from fever in the whole city, including the preceding.

FEVERS. 1850.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER.	DECEMBER.	TOTALS.
Fever	3	3	3	5	4	2	13	65	34	18	9	4	163
" Ataxic	..	..	..	..	..	2	1	..	..	1	..	..	4
" Bilious	2	..	1	4	..	..	2	14	16	1	..	1	41
" Bone	..	..	..	..	..	..	..	..	..	1	1	..	2
" Congestive	5	5	2	2	4	..	14	51	30	9	2	4	128
" Continued	..	..	..	..	..	..	..	2	2	..	1	..	5
" Intermittent	2	2	2	..	..	..	9	21	6	4	1	..	47
" Nervous	1	..	1	..	1	..	..	3	..	1	..	..	7
" Puerperal	..	..	1	..	..	1	2	2	2	..	..	4	12
" Putrid	1	..	..	..	..	..	..	..	1	..	..	..	2
" Remittent	..	..	..	1	2	2	10	23	27	9	5	5	84
" Scarlet	..	1	1	..	4	7	2	4	..	1	..	1	21
" Swamp	..	..	..	..	..	..	..	1	..	..	..	..	1
" Typhoid	8	12	3	5	6	10	12	13	10	8	7	9	103
" Typhus	35	14	27	11	9	16	8	11	18	9	17	20	195
" Yellow	1	..	2	..	1	..	4	62	33	4	..	..	107
TOTALS	58	37	43	28	31	40	77	272	176	66	43	48	920

In this table, several of the qualifications given to some of the types of fever have been dispensed with, or rather condensed into the distinctive feature. For instance, *malignant*, *pernicious* and *congestive* intermittents, are all included under the head of *intermittent fever*. It will be perceived that several useless terms, such as '*nervous*,' '*putrid*,' and '*swamp*,' are still retained. The '*bone*' fever is intended to designate the '*dengue*,' or '*break-bone*' fever.

I have to object to the table of the Board, that the names *pernicious fever*, *malignant fever*, *algid* and *cerebral fever*, which figured largely in their weekly reports in summer, published in the city papers, have here been dispensed with, and their numbers must have been embraced under the general and vague title of '*fever*.'

It will be seen that *typhus* and *typhoid* fevers are the only specified types from which there were deaths in every month of

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the year, and the mortality from the former is the greatest on the list. Now, this typhus is nothing else than *ship fever*, and is not indigenous to our climate or locality. The most of the cases of typhoid fever are but the same in a milder grade, though there can be no doubt that this type does originate here, as it does in many parts of the Southern States. The cases termed 'fever,' consist mostly of types not very distinctly marked. As the largest number of these is to be found in August and September. I have no doubt that many of them might have more properly been termed *yellow fever*.

So much for the general statistics of fever; but before commencing my account of the fevers of the summer, a brief allusion to the meteorology of the year, and the sanitary condition of the city, may be taken in connection, although these points have both been more fully discussed in my first report.

The meteorology of the year was somewhat extraordinary. The winter was unusually mild—the spring remarkably cold and late—the summer probably the hottest ever experienced in this city. The customary rainy season began in the month of June and continued till about the middle of July; but the quantity of rain that fell was less than has been observed for several years past. August and September were remarkably dry, with a prevalence of northerly winds, which, in connection with the fact that upon all previous occasions, so far as our knowledge goes, the summers next succeeding those in which the city was inundated were very sickly, gave rise to the constant expectation of a severe epidemic yellow fever. But the result was, that although there was a great deal of fever, it was mostly of a very mild character. It is most evident that all the meteorological observations hitherto made do not enable us to predict, with any degree of certainty, the outbreak of an epidemic, or to say what kind of weather is indispensable to its existence. The yellow fever season in this city may be said to extend from the first of July to the first of November; but so far as I know, the occasions upon which epidemics have prevailed have not been characterised by any striking uniformity of weather.

In regard to the general sanitary condition of the city, I think

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it but justice to our Board of Health to say, that more attention has been paid to cleanliness and the removal of nuisances, than was observed for many years previous. In accordance with the enlarged powers conferred upon the Board by a late act of the legislature, it has exercised a commendable vigilance over the public health, and enforced its orders for the removal of the supposed causes of disease, as well as the state of public sentiment and the attendant circumstances of the case would allow.

During the last winter and spring, by order of the city authorities, all the timber standing between the city and the Metairie Ridge was cut down, and the greater part of the ground well drained; thus causing an extensive swamp to be dried by the rays of the sun, and removing an obstruction to free ventilation by the breezes of the Lake. I think it not at all improbable that this work has already exerted a beneficial influence upon the health of the city. Believing, as I do, that all the fevers seen in this city, with the exception of ship-typhus, are purely *endemical* and 'to the manor born,' I feel assured that much might be done towards preventing their occurrence. Experience has shown, in a thousand instances, that stagnant water and putrefying filth will cause disease, and that health may be restored by their removal. When we compare the present sanitary condition of this city, though still so defective, with what it was thirty years ago, we surely cannot be surprised at the melioration in our endemic fevers that is now so generally observed. The benefit, in a hygienic point of view, which already appears to be derived from the recent improvements of the city, in the way of building, paving, draining, cleaning, etc., should encourage the authorities to extend these operations as fast as their resources will permit. However thankless the service, and however injurious it may be to the business on which we depend for support, the honorable portion of the medical profession is too deeply interested in the healthfulness and prosperity of the city, not to be willing to do all they can towards the discovery and the prevention of the *causes* of disease.

There probably never was a season in which the various types of endemic fever, usually seen in this city, prevailed more gene-

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rally, were more intimately mingled, or presented what are thought to be their diagnostic marks in a more equivocal or unsatisfactory manner. Hence we find the most respectable physicians expressing entirely different opinions respecting the principal type that prevailed in the months of August and September — some calling it yellow fever, some a remittent-bilious fever, to which they gave the soubriquet of '*break-bone*,'—whilst others called it '*dengue*,' or '*dengue fever*.' The latter appeared finally to take the lead and become most popular, mainly, I am inclined to think, because it conveyed *no terror*. Indeed, this new name for endemic fever, *dengue*, has become exceedingly popular in our city, and bids fair to continue in vogue for a long time. Nor is it to be wondered at, for it is not a *killing complaint*. Thousands upon thousands may be afflicted with it, but none ever die. There is not a single death from dengue to be found in our mortuary reports, and but two from bone-fever. If, perchance, a patient who was said to have the dengue, dropped off, the death was at once attributed to some other type of fever; most commonly the victim was assigned either to congestive, pernicious, malignant, or, perhaps, yellow fever. This serves to show the unsettled and defective state of our diagnosis among the various types of fever annually seen in this city. The events of the year tend strongly to confirm the observation that our endemic fevers are gradually becoming milder and more manageable. Never before has there been seen in this city so great an amount of fever with so small a mortality. The fact which I have elsewhere published, that all the forms or types of endemic fever met with in the southern country, are to be seen prevailing together in this city, has also been forcibly illustrated by the occurrences of this year.

Up to the last of July or first of August, the endemic fevers of the city had pursued their customary course, ordinary mild intermittent being the principal type seen; but about this time the intermittents became more grave, and the remittent-bilious type began to rise in the ascendant. The true *sickly season* may be said to have lasted from the first of August to the first of October. It was during this period that the fevers assumed their

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gravest aspect, and prevailed to the greatest extent. Of the 11,768 admissions for fever into the Charity Hospital, during the year, 4,177, or more than *one-third*, took place during the months of August and September.

Among the many different types of fever that were observed during this period, as has already been shown, I really find it difficult to select any one as the leading object of description. And here the important question arises, whether we shall consider these different types as *separate and distinct diseases*, or merely as *varieties of one general disease, springing from the same remote cause?* If you maintain that one of these types (yellow fever) is a disease *sui generis*, why not contend for the same in respect to intermittent, typhus, typhoid, remittent, bilious, congestive, malignant, pernicious, ephemeral, continued, gastric, and solar fever; for all these are specified in the mortuary reports of the Board of Health and the records of the Charity Hospital, as prevailing at the same time? Dengue and break-bone, too, names which have become so popular of late, must also claim a specific existence, although they cut so small a figure upon the records. However, before entering upon the discussion of this great question, let us review the rise and progress of the general sickness, and endeavor to point out the prominent features of the principal types.

The sickness appeared to commence in the lower part of the city, and gradually progressed upwards. About the first of August, the physicians of the first and third municipalities were extremely busy, and some of them boldly asserted they were contending with yellow fever; whilst those residing in the second municipality and Lafayette met with but little fever of any kind. In a very short time, however, cases of fever became rife in the second municipality, and the disease prevailed to an extraordinary extent. The epidemic (if I may use the term) then proceeded to Lafayette, where it also prevailed extensively towards the last of September, evidently diminishing in the rear as it marched along its course. Thus the disease did not prevail in an equal degree, simultaneously, over the whole city, but affected different sections at different times. In the district under its influence, it

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appeared to affect all sorts of people — the old and young, black and white, acclimated and unacclimated, — though the creoles and acclimated citizens were certainly far less affected than any others.

When the fever commenced in a house, it sometimes ran through the whole family, often prostrating three or four members at the same time.

I should say that the principal type seen during the sickly season, next to the intermittent, was a well-marked remittent-bilious fever, presenting, in a striking manner, the prominent features of that type, as it is seen in the country. When timely and properly treated, it was very easily cured, but if neglected or maltreated, and allowed to approach a *fatal crisis*, it then presented the characteristic features of the yellow, congestive, malignant or pernicious type; and these are the names most commonly found on the bills of mortality.

Notwithstanding the prejudice against yellow fever that was very generally observed this year, and the doubts expressed to the last by some physicians as to the existence of this type, it appears from the mortuary reports of the Board of Health, published weekly, that during the months of August and September there were more deaths from it than any other type. In the nine weeks, including the week ending on the 31st of August and that ending on the 28th of September, there were 468 deaths from the various types of fever. The following are the types specified, with the number to each: yellow fever, 96; congestive, 85; pernicious, 54; remittent, 52; typhoid, 30; bilious, 29; fever, 28; intermittent, 23; typhus, 26; malignant, 22; scarlet, 4; puerperal, 4; cerebral, 3; nervous, 3; putrid, 2; congestive-remittent, 2; algid, 1; swamp, 1; continued, 1; uncertain, 1: total, 468.

Now, whilst there may be some doubt whether every one of the cases marked yellow fever really belonged to that type, there is good reason to believe that many of those set down to 'fever,' —'malignant,' 'pernicious,' and 'congestive' fever, were more justly chargeable to yellow fever. It would certainly be derogatory to the practical skill of the New-Orleans physicians to lose

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in one season as many cases as are here set down to remittent, bilious and intermittent fever; especially when we consider that not a single death is charged to simple intermittent fever at the Charity Hospital, among the 4,215 cases treated there during August and September, and that nearly two-thirds of the deaths from remittent and bilious fever occurred in private practice.

In asserting, as I have done, that the predominant type of fever seen during the late sickly season was that of a remittent-bilious fever, I wish you to recollect that the only distinction I have been able to draw between this type and yellow fever, as they are generally seen in this city, consists in *grade* or *degree* of morbid action; which, as between types, is no distinction at all. They cannot be distinguished from each other in their earlier stages, but as the period of *crisis* approaches, especially if death take place, the characteristic marks of yellow fever become more evident.

In the epidemic now under consideration, the slight initiatory chill, and the great heat of the surface that soon followed; the flushing of the face; the pain in the head, back and limbs; the remission that generally took place within the first twenty-four hours; and, above all, the frequent occurrence of *bilious vomiting*, combined to make almost a perfect representation of what is recognised as bilious fever all over the southern country; whilst the extraordinary prostration that followed even mild attacks, the frequent occurrence of slight hemorrhages, and the occasional termination with black vomit and yellowness of the skin, afforded indisputable evidences of yellow fever. As for the cases marked congestive, malignant and pernicious fever, I am inclined to believe, they were only such of the predominant type as terminated in congestion of the brain, to which there was a strong tendency this year, and which is by no means uncommon in yellow fever. On examining the Hospital reports, I find of all kinds of congestive fever, 3 discharges and 31 deaths; of malignant fever, none discharged and 16 deaths.

In view of these and the foregoing facts, I am fully convinced in my own mind, that all the forms of fever seen during the late sickly season, were but *varieties of some one general disease.* I

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shall therefore continue to speak of it as the *epidemic*, not using this term in its strict signification, but rather in its more common acceptation, as signifying the extensive prevalence of the endemic fever of this locality.

At a meeting of the Physico-Medical Society, in October, when the reigning epidemic, and particularly its relation to yellow fever, was under discussion, a member who does a large practice remarked, that he had seen a few plain cases of yellow fever, and that a large portion of the cases he met with were very much like the majority of those that came under his care in 1847 and other late years, when no person denied the prevalence of yellow fever to a great extent.

For my own part, I cannot say that in my practice I met with any strongly-marked cases of yellow fever; yet several had slight hemorrhage from the nose, mouth and uterus; and I fully concur with the gentleman, that many of them were precisely such as were seen during the great epidemic of 1847, when they were generally admitted to be yellow fever.

The epidemic of this year was of an extraordinary mild character, and presented just enough of the most prominent features of yellow fever, bilious, congestive and the like, to display most beautifully the intimate connection that exists between all the types of endemic fever witnessed at this place. As the gentleman just mentioned has well remarked, why should not yellow fever, though generally so formidable a disease, sometimes prevail in a very mild and manageable form, as well as scarlatina, measles, influenza, etc.? Putting it in the category of true epidemics, I see no reason why it should not; but placing it among *endemic* diseases, which is certainly its proper position in this city, I think there is as much reason to expect that it should, as has often been observed with intermittent, remittent and typhoid fever, dysentery, etc. These diseases are sometimes terrific in their destructive powers, and, again, so mild and harmless as to be cured by the simplest remedies. Endemic fever, in *any form or grade*, may certainly prevail to an epidemical extent; though most commonly, during sickly seasons, several types are observed at the same time. Thus, in the country, you have intermittents,

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remittents, congestive, and sometimes dysentery, prevailing together; whilst in the city we most generally have the yellow fever type associated with these, as I have repeatedly demonstrated.

But to continue my account of the epidemic of this year. I have said that many cases were attended by hemorrhages. Epistaxis was much the most common, and was invariably followed by happy effects, removing the supra-orbital pain, and soon reducing the febrile excitement. Hemorrhage from the mouth, stomach and bowels was less common, though cases of each were seen. Every woman I attended had hemorrhage from the uterus: or, at least, the catemenia appeared, and more profuse than ordinary, whether at the regular period or not. By some it may be supposed that the free administration of quinine influenced this discharge, but I think it was more justly attributable to the hemorrhagic diathesis produced by the fever.

I have heard it objected that the hemorrhages seen this season were of too mild a character to denote yellow fever; but if you admit, as I suppose you do, that a *hemorrhagic tendency* is the chief characteristic feature of yellow fever, you ought only to expect light hemorrhages to attend the mildest possible form of this fever.

In respect to black vomit, which we all admit to be a hemorrhage from the stomach, we have the testimony of some of our most respectable physicians that it was seen, and we are therefore bound in good faith to believe it, whether we saw it ourselves or not.

I met with two cases of black vomit at the Charity Hospital, but doubts were expressed as to either of them being yellow fever. One was a little Irish boy, aged about eight years, who came to the city in 1847, and suffered from the epidemic of that year, together with the rest of his family. He afterwards enjoyed good health, until about the 15th of July last, when he was severely attacked with dysentery, for which he was brought to the Hospital. He was never suspected of having yellow fever, but on the night of the 19th July he threw up black vomit freely, and died. There was no yellowness of the corpse—not even about the eyes. No post-mortem examination was made.

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The other case was a dissipated Irishman, who had been about the city for the last four years—the two last permanently. He did not know that he had ever had yellow fever. He entered the wards under charge of Dr. Browning, on the 11th September, apparently suffering from the prevailing fever, with great irritability of stomach and copious bilious vomiting, which he said had continued from the commencement of the attack. On the day following his admission, Dr. Browning observed the ejecta to become darker, with flocculi resembling the beginning of black vomit; also, hemorrhage from the gums. The bile now disappeared, and the dark color increased, until the ejecta presented very good specimens of black vomit. The next appearance was a copious vomiting of *pure blood*, which lasted at least two days and nights. It then began to diminish, and again to present the appearance of black vomit. This gradually became lighter, and finally gave place to greenish-yellow bile again, which continued till the day of his death, on the evening of the 24th. On the last day, the dark flocculi again appeared in the ejecta. I should not omit to mention, that the bowels had been costive, and that on the days when the hemorrhage from the stomach was greatest, there was almost a complete suppression of urine. There had been no jaundice or injection of the eyes throughout, nor did the corpse turn yellow.

Autopsy, on the morning of the 25th.

Chest.—The upper and posterior parts of the lungs, on both sides, were engorged with dark blood. Old pleuritic adhesions were found.

Abdomen.—The stomach contained about half a pint of yellow bilious matters. The mucous membrane was highly engorged, particularly towards the pyloric extremity. In the lower part of the great curvature were distinct *echymosed patches*, from which the blood could be easily squeezed. These, I presume, were the sources of the preceding hemorrhage. The liver was of the natural color; the gall-bladder distended with bile; the bladder was contracted, but contained a little urine. No other parts examined.

Such is a brief and imperfect history of this extraordinary

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case. And now, what will you call it? If you say it is yellow fever, I would ask, where were the flushed countenance, the red, watery eye, and the final yellowness of the skin which you say characterise this type? If bilious fever, then you must admit that bilious fever may present the worst features of yellow fever —black vomit, hemorrhage from the gums and suppression of urine. If you say it was *no fever at all*, but only morbid phenomena, resulting from a broken-down constitution by intemperance and bad living; then are the prominent symptoms said to denote fever—heat of skin, excited pulse, headache and pains in the back and limbs, of but doubtful signification; for these were all present in the early stage, although not mentioned in the foregoing history.

Several of my cases in private practice had slight hemorrhage from the mouth at the crisis of the fever, or during convalescence.

In respect to yellowness of the skin, I think it was very rarely met with this season. In July, I saw one or two cases of remittent fever, attended with intense jaundice, but without the hemorrhagic tendency.

Perhaps the extraordinary secretion and discharge of bile observed this summer, may have prevented the appearance of yellowness in the fever cases as often as usual. It has been supposed, as I am aware, that the icterous skin and eyes of yellow fever do not depend upon a suffusion of bile, but rather upon a peculiar change of the blood; nevertheless, I am inclined to think the function of the liver has a good deal to do with it. I agree with Dr. Imray and some others, that the absence of hepatic secretion is very commonly observed in severe cases of yellow fever. In the autopsies of such cases, bile is hardly ever found in the stomach, and very rarely in the intestines. More or less of it is generally found in the gall-bladder, but even there I have seen it entirely wanting, the gall-bladder looking like a watery oyster.

In regard to attacks of this fever upon unacclimated persons, or those who had previously suffered yellow fever, I can only say, I saw several instances and heard of a considerable number.

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This occurrence induced some of the physicians to doubt whether the prevailing fever had any connection with yellow fever, as they do not admit the recurrence of the latter; but surely no physician has witnessed epidemics of yellow fever, without at the same time meeting with cases of a milder grade of fever among those who had previously had yellow fever. Many persons in this city and Mobile reproach the profession for charging them *two yellow fever bills*, whilst contending that the disease attacks but once. I attended a gentleman this summer who had resided in Mobile the last seventeen years, and there had two attacks of fever, each of which was pronounced *yellow fever*, by different physicians. For himself, he said he could discover little or no difference between the symptoms of this attack and those.

In view of these considerations, I do not think that the fact of acclimated persons suffering from the late fever is by any means conclusive against its alliance with yellow fever.

But what shall I say of *Dengue*, of which we have heard so much within the last two or three years? It seems that 'a local habitation and a name' were given to this disease in 1827, as a peculiar sort of rheumatic, eruptive, bilious fever, that was observed in the island of St. Thomas, Cuba, and other islands of the West Indies. In the following year (1828), it visited the principal cities of our southern States — Charleston, Savannah, Mobile and New Orleans. It was described at that period by Dr. S. H. Dickson of Charleston, Dr. Waring of Savannah, and Drs. Osgood and Lehman of the West Indies. Dr. Dickson gave a very full and interesting account of it in the 'American Journal of the Medical Sciences,' for November, 1828, but he appears to have differed from the other authors, in considering it a disease *sui generis* and contagious, whilst the others looked upon it as only a modified form of the endemic fevers of their respective localities. After prevailing a year or two it seems to have disappeared, or, at least, ceased to attract attention, until very recently. In the summers of 1848 and 1849 it was again brought into notice by those who were at a loss to find a better name for the mild and indistinct type of fever that prevailed, and it has since gotten to be the most common name for our

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ordinary summer and autumnal fevers in this region; with what propriety, the facts and statistics contained in this report will serve to show. With due deference to the superior abilities of Professor Dickson, I am compelled to concur in the opinion expressed by Drs. Waring, Osgood and Lehman, if the chief prevalent fever of the last summer, in this city, was really the dengue which he described.

In the Charleston Medical Journal and Review, for 1850, may be found interesting accounts of both the old and new dengue, from the pen of Dr. Dickson; also, an account of the late fever of Charleston, by Dr. W. T. Wragg.* In the Southern Medical and Surgical Journal may be found a paper on the subject by Dr. Campbell, of Augusta, giving an account of the dengue of that city. Dr. Anderson, of Mobile, mentions it in his report on the fevers of the year, to the Alabama State Medical Association; as does Surgeon J. B. Porter, of Fort Moultrie, in his report to be found in this volume. These papers will be before the profession, and the inquisitive reader may consult them at his leisure. It will be sufficient for me to give, on this occasion, such facts relative to the subject as I have been able to collect, and let them speak for themselves.

This term, *dengue*, came greatly into vogue in this city in the summer of 1848, when there was a great deal of endemic fever of all kinds, but with types indistinctly marked. But few cases were recognised as yellow fever at the onset, or even in the end, if they terminated happily; they were then called dengue, or bilious fever. But all severe cases, if neglected or maltreated, were liable to die, and whenever this occurred, they seldom failed to present indubitable marks of yellow fever, and were so pronounced in the bills of mortality. In that year there were 809 deaths from yellow fever, far more than the mortality from all other fevers together, yet the Board of Health never admitted that yellow fever was epidemic.

* As our time will not allow us to attempt an analysis of Professor Dickson's papers on Dengue, we intend to insert his last article among our reports from South Carolina in this volume, and invite the reader's special attention to it. My remarks in this report relate alone to what has been called *dengue* in this city. I maintain that no such disease as that described by Professor Dickson as *dengue* in 1828 prevailed in New Orleans in 1851.— Ed.

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The fevers of Natchez and Vicksburg that year were also of the same general character, and went most commonly by the name of 'dengue,' yet the papers of Dr. C. H. Stone, of the former place, and Dr. Magruder, of the latter, which were published in the New-Orleans Medical and Surgical Journal, maintained that the prevalent fevers were nothing but unusually mild and somewhat modified forms of the customary endemic fevers. They saw cases attended with eruption and arthritic pains that continued many days, corresponding with Dr. Dickson's description of the dengue better than any seen in this city this year; yet the few cases that terminated fatally presented indubitable marks of genuine yellow fever. I invite special attention to those papers.

In 1849, the general character of our endemic fevers was much the same, and went mostly by the same name; nearly all the cases that recovered were called dengue — nearly all that proved fatal were called yellow fever. There were 769 deaths from yellow fever that year, which was more than the deaths from all other fevers during the whole year; yet it was not admitted to be epidemic, and, indeed, attracted but little attention.

In 1850, we had the same old song — dengue was in the mouths of nearly every body. The endemic fevers prevailed to a very great extent during the months of August and September, but of the mildest character ever seen, and presenting every variety of type. Nearly all cases, during life, went by the names of dengue, dengue fever, bone fever, or break-bone fever; yet, as you will presently perceive, these euphonious names cut but a sorry figure either in our bills of mortality or the catalogue of admissions into the Charity Hospital.

We have already seen that during the sickly season (August and September), there were more deaths from yellow fever than any other type, and that dengue did not appear upon the list. I will now present a table prepared from the records of the Charity Hospital, to show how it figured among the living patients of that institution.

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TABLE

Showing the number of Admissions, Discharges and Deaths from all Fevers, in the months of August and September, 1850, at the New-Orleans Charity Hospital.

1850.	AUGUST.			SEPTEMBER.		
FEVERS.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.
Intermittent . . .	1600	1510	. .	1350	1369	—
Congestive intermittent	4	. .	3	—	—	—
Remittent	475	320	3	570	534	6
Congestive remittent.	3	. .	3	1	. .	3
Typhoid	10	10	1	6	6	2
Typhus	5	8	4	18	5	10
Congestive typhus. .	3	. .	3	1	. .	2
Bilious	40	31	2	8	22	1
Yellow	5	2	1	—	—	—
Continued	18	19	1	14	8	—
Malignant intermittent	9	. .	10	6	. .	4
Malignant remittent .	2	. .	2	—	—	—
Congestive	10	3	12	5	. .	5
Ephemeral	13	18	. .	39	45	—
Puerperal	1	. .	2	1	—	—
TOTALS . .	2198	1924	47	2019	1989	33

It will be seen that the celebrated dengue was not recognised among these thousands of living fever patients. For the consolation of its advocates I may state, however, that *one case* does appear in the report for October, and the only one during the year. The small mortality above presented furnishes the best evidence of the mildness of the prevailing fevers; and it is very remarkable that so small a portion of the 448 deaths from fever, in the two cities, during the months of August and Sep-

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tember, should have occurred at the Charity Hospital. This corresponds with a similar fact in regard to cholera, mentioned in another report. Thus it seems that the Charity Hospital does not afford an invariably correct criterion by which to judge of the state of public health; for we have demonstrated that, on some occasions, both cholera and fever have prevailed more extensively and fatally among the classes of people who do not frequent the Hospital than among those who do.

But let us not abandon the dengue yet. How came it that whilst little else was talked of in the city, no cases were admitted into this great fever hospital? Can it be possible that in a brief period, when a rare, peculiar and distinct form of epidemic fever was said to be prevailing extensively, there could be collected promiscuously upwards of *four thousand cases of fever in one hospital*, without obtaining some unquestionable specimens of such new complaint? To my mind, such a proposition is perfectly preposterous. But it may be said by the advocates of dengue, that the visiting physicians of the Charity Hospital were incapable of diagnosing the complaint, and therefore did not recognise it when it was before their eyes. This would be too bold an assertion for any one to hazard; and it necessarily follows, either that no such specific complaint, entirely different from the endemic fevers of the season, existed; or, if it did, its distinctive characters have yet to be pointed out, so that it may be readily recognised.

These remarks are, in my opinion, just as applicable to the cases of fever seen in the city at large, as to those in the Charity Hospital. I may, then, be asked if the fevers of this summer and autumn presented any unusual features whatever, and, if so, what were they? I admit they did, and will briefly point out some of them.

1. They were of the mildest general character, for the great extent of their prevalence, probably ever witnessed in this city.

2. They were more generally attended with bilious vomitings than usual.

3. There was a remarkable tendency to hemorrhage at the critical stage, most commonly from the nose and uterus (and these were generally favorable), but sometimes from the gums,

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stomach and bowels. Hemorrhage from the stomach made black vomit, and such cases were admitted to be yellow fever.

4. Severe attacks were marked by violent and dangerous head symptoms. Hence so many deaths, in the bills of mortality, from 'congestion of the brain' and 'congestive fever.'

5. A great many cases were aggravated by boils and prickly heat, which arose from the extraordinary and long-continued heat of the summer. A few cases were attended by a peculiar slight eruption on the skin, not very common in our summer and autumnal fevers, but noted as an occasional occurrence by writers on the fevers of the South.

The females, in the Charity Hospital, presented a remarkable flushing of the countenance and skin generally, with redness of the eyes, much like yellow fever, but not accompanied by corresponding severity in other symptoms.

6. I witnessed no extraordinary arthritic or rheumatic pains, or any affection of particular joints, causing lameness, as was attributed to the dengue of 1828.

These are all the striking features I deem worthy of notice at present; and I do not consider them sufficient to signalise the existence of any distinct or peculiar disease. More or less of them are to be seen in our summer and autumnal fevers every year.

Every type of fever should have well-marked distinctive features or symptoms, and these must be seen in at least a majority of cases before such type can justly be considered as prevailing to an epidemic extent.

Thus have I given a rude and imperfect account of the fevers of the year in this city, according to my own observation, and such information as I could obtain from others.

I have shown you comparative statistics of the mortality from fever, and all other diseases combined, during the year.

I have compared the prevalence of fever with the amount of other diseases at the Charity Hospital.

I have shown that the endemic fevers of the city have pursued their customary course, increasing in virulence with the progress of the seasons, and presenting nothing more extraordinary than their unusual mildness, when prevailing to so great an extent,

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and the occasional, though very rare, appearance of an eruption on the skin.

I have shown that all the types of endemic fever prevailed together during the sickly season, and that there is no good reason for believing that any new or extraordinary type made its appearance. Such, at least, is the impression left upon my mind. If every variety of aspect presented by our endemic fevers is to be designated as a distinct type, with an appropriate name, there will be no end to the list, and it will only serve to increase the embarrassment, now so often felt, in determining the diagnosis.

TREATMENT.

What I have to say in regard to the treatment of the summer and autumnal fevers may be expressed in a few words. It consisted almost entirely in the use of mustard pediluvia, gentle purgatives, and liberal doses of the sulphate of quinine.

Nor did I have occasion to give as large doses of quinine as I have done for several years. I seldom gave more than a scruple, and most generally from five to fifteen grains, at a dose. From fifteen to twenty grains, combined with ten grains of blue mass and the fourth of a grain of sulph. morphia, given at the *acmē of the hot stage*, seldom failed to subdue all febrile excitement in the course of five or six hours. Then the bowels were easily moved by castor oil or calcined magnesia, and the repetition of gradually diminished doses of quinine soon brought about convalescence. Most commonly I had the bowels opened by castor oil, or a purgative enema, before giving quinine. I had but three cases cupped during the whole season, and none bled from the arm.

In some of the most bilious cases, the quinine did not produce its happiest effects until I had given a decisive dose of calomel — say fifteen grains. Previous to the action of this mercurial cathartic, the quinine, in fifteen or twenty-grain doses, would reduce the febrile excitement without producing a copious perspiration. In such cases, the convalescence was never established so early nor so completely as could be desired. After the action of a mercurial cathartic, however, every thing proceeded in the most favorable manner.

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I am led to believe that the sulphate of quinine was prescribed more generally and more liberally, by the physicians of this city, in this epidemic, than has been done for several summers past.

I heard of some instances in which this remedy did not fully answer the expectations of those who prescribed it. In some cases it was even suspected of producing deleterious effects; but for myself, I can only say that, with the exception just mentioned, it came fully up to my expectations—doing all I desired, and nothing more—and sustaining the high estimate I place upon it, as the greatest of all fever remedies.

As before remarked, I do not think that so large doses were required in the late fever as would be in one of a more malignant grade; and I have reason to apprehend that some of those who were just beginning to practice the *abortive method*, by the use of this remedy in large doses, had probably not yet acquired that discrimination and skill in its application which may be attained by a more extensive experience.

I have reason to believe that some mild attacks of the late epidemic were cured by such remedies as footbaths, gentle cathartics, and warm diaphoretic drinks, without the aid of quinine; but I can but think it unsafe to rely upon such a treatment of a fever which is at least *liable* to run on to a dangerous extreme. I treated but fifty-two cases of the fever, all of which recovered. Quinine was my principal remedy; and I saw nothing in its action to lessen my high opinion of it.

I had intended to report some cases from my note-book, to show the progress of symptoms and the action of remedies; but this paper is already too long, and I shall therefore omit them.

I deem it proper to state that I have been informed by some physicians in the interior, that they witnessed an eruption in the fevers of the summer and autumn, much oftener than it appears we did in this city. Such was the remark of Dr. McLeod, an intelligent physician who resides on bayou Lafourche; and Dr. A. C. Holt, of Woodville, Miss., who wrote me an interesting letter on the subject. I have stated that a peculiar eruption was sometimes witnessed in the fevers of this city, but I do not think sufficiently often to characterise a distinct disease.

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ARTICLE IV.

SPECIAL REPORT ON EPIDEMIC CHOLERA, IN THE CITY OF NEW ORLEANS, DURING THE YEAR 1850.

BY THE EDITOR.

THIS disease seems to be following the same course it took on its first visitation to our city, in 1832. According to Dr. M. Halphen, a French physician who resided here at the time, and has left the only full account of this disease I have been able to find, it prevailed here three years in succession, 1832, '33 and '34, and sporadic cases may have been seen still later, as Dr. Halphen's last account was written in 1834.

He says that, during these three years, the city was never clear of the disease, though it only prevailed to an epidemic extent once or twice a-year. It finally disappeared, or was merged into the endemic bowel complaints and fevers of this region. Dr. Halphen wrote three reports — one for each year. The first was read before the Academy of Medicine of Paris, and having been favorably reported on by M. Pariset, chairman of a committee appointed for the purpose, was honored with the distinction of being published by the Academy. These papers are extremely interesting, and I should be very glad to insert an abstract from them in my Work, but, as yet, have not been able to make room for it. It is barely possible it may appear in the latter part of this volume. Dr. H. speaks of the complication of cholera with yellow fever and intermittents, and mentions the remarkable fact that the disease first broke out here during the prevalence of a severe epidemic of yellow fever, which at once quailed before its more powerful rival.

The cholera of that period was far more malignant than the last, and caused a much greater mortality. Dr. Halphen felt no hesitation in tracing it to importation on board the steamer 'Constitution,' that came down the river from St. Louis in October, 1832. The outbreak of cholera here in December, 1849, is attributed by many to the same source, though from a different direction; but this has not been so satisfactorily accounted for. In the various references that have been made to my first paper on cholera, I do not think that all the facts I stated, bearing on

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the outbreak of the epidemic here, have been duly considered. It is certainly quite a debateable question whether the appearance of the ship 'Swanton' and epidemic cholera at this place, about the same time, stand in the relation to each other of coïncidence, or cause and effect. I am not prepared to deny that cholera may be taken out of its regular course by means of persons, goods or vessels, and communicated from person to person; but I do deny that this is either the only or the most common method by which it is propagated: however, I have neither time nor inclination to go into a discussion of the subject. Facts sufficiently numerous, in relation to it, are already before the profession, and each one will form his own opinion. I shall continue to note the progress of the disease at this place, till it disappears, and will now proceed with what I have to offer for the year 1850.

As I remarked at first, since epidemic cholera broke out here in December, 1848, it has proceeded pretty much as it did in 1832—never entirely absent, and mounting up to an epidemic extent at least *once*, if not twice, every year, though milder and milder, and still lingering among us. Although the mortality from this disease has descended so low as *six* in a month (August, 1850), it has never been totally absent. The following is a monthly statement of mortality from the different varieties of cholera, and from all diseases, as stated by the Board of Health, in their annual report for the year 1850.

1850.	CHOLERA	CHOLERA ASIATICA.	CHOLERA ASPHYXIA.	CHOLERA INFANTUM.	CHOLERA MORBUS.	CHOLERA TOTALS.	ALL DISEASES.
January -	118	5	....	1	5	129	581
February	13	15	....	1	1	30	425
March -	288	112	2	9	13	424	848
April - -	65	6	....	5	4	80	482
May - -	50	10	4	11	2	77	596
June - -	27	11	....	9	2	49	480
July - -	8	1	....	7	3	19	565
August -	2	4	....	4	2	12	916
September	22	18	....	2	5	47	654
October -	50	41	4	4	6	105	622
November	310	33	9	9	15	376	894
December	195	22	3	11	11	242	756
TOTALS	1148	278	22	73	69	1590	7819

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Thus it will be seen that about *one-fifth* of the entire mortality for the year was from the different species of *cholera* as designated on the certificates of burial, and that in the first and last quarters, the mortality from these diseases amounted to about one-third of the whole. But it will be said I have included, in this aggregate, forms of cholera that do not belong to the Asiatic or epidemic class—such as cholera infantum and cholera morbus. I admit that the two latter forms are indigenous and common, but when you observe the different names given to the epidemic form, and also note that the mortality from the two endemic species was greatest at the time the epidemic was worst —periods when they are not generally prevalent,—I think you will agree with me in the suspicion that the greater part of the former cases more properly belong to the latter species. But strike the whole from the list (142), and you still have a mortality from epidemic cholera of 1445.

The following remark is to be found in the annual report of our Board of Health: 'During the year 1850 cholera has at no time been epidemic, nor has it at any moment been entirely absent. On this point I must be allowed respectfully to differ with the committee of the Board. The term *epidemic* is, in this city, restricted almost entirely to the extraordinary prevalence of some particular disease; and the converse term is *sporadic*. Now, if I show, from the records of the Board, that in the month of March the mortality from cholera equalled that from all other causes combined, and that in November it caused nearly one-half of the deaths, and far exceeded the combined sum of all other zymotic diseases, it certainly would afford good ground for asserting that cholera was epidemic at least *twice* during the year. What are the facts? In March, the total mortality was 848, whilst that from cholera was 424: in November, the total mortality was 894, that from cholera 376, whilst the mortality from all other zymotic diseases, including fevers, chicken-pox, syphilis, croup, diarrhœa, dysentery, erysipelas, hooping-cough, measles, small-pox and aphtha, was 111. I think these statistics afford sufficient evidence that cholera was *epidemic* in 1850.

There is another opinion expressed by the Board of Health, relative to cholera, in which I cannot concur. The committee

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say: 'Whilst a few deeply-lamented citizens have been its victims, it has principally affected the newly-arrived immigrants, or those ghastly specimens of humanity that occasionally arrive from California.'

I know of no better way to refute this remark, than by giving the relative mortality from cholera at the Charity Hospital and the city at large. It is well known that the Charity Hospital, an institution that admitted upwards of eighteen thousand patients during the year 1850, is the general receptacle, not only of all sick immigrants, but also of the lower class of the people throughout the city. Now, as this class generally suffers most from the prevalent diseases of the time, such a hospital will generally afford a good index to the public health. But it may happen, and has done so this year, that the order of people above the hospital-going class is chiefly affected, and affords the greatest relative mortality. By way of illustration, we will select the statistics of a few months.

In January, cholera prevailed chiefly among the lower order, and we find that, of 129 deaths from this disease in the whole city, 100 occurred at the Charity Hospital.

On the other hand, in March the deaths from cholera in the whole city were 424—of which there died at the Charity Hospital, 127.

And in November, of 376 deaths from cholera in the whole city, only 79 occurred at the Charity Hospital: all which would tend to prove that, at the two last-mentioned periods, cholera prevailed more extensively among the better orders of people, than among those who frequent the Charity Hospital. And such was the case, in my opinion. In my monthly journal of the general aspect of the weather, the condition of the streets, stage of the river and prevailing diseases, I have noted many observations which may be omitted in this report. Of the two periods when the cholera prevailed to a sufficient extent to be called *epidemic*, I may state, however, that March was very dry and warm till the latter part, when we were suddenly thrown back into mid-winter. On the 26th there was heavy rain, which was followed by a sudden change, and on the 28th the thermometer fell to 40 degrees in the open air, and ice was seen in the

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gutters. The progress of the epidemic was so suddenly arrested by this change, that, whilst the deaths from cholera during the week ending on the 25th March amounted to 149, those of the next week were only 70, and so on diminishing.

November was for the most part cool, dry and very pleasant. There was white frost on the morning of the 17th, and the thermometer was as low as 40° for several mornings, but the atmosphere appeared to be too dry and hazy to afford much frost. On the 27th there was heavy rain, and after this the weather became warm and foggy, like that of December, 1848. The cholera, which had been checked by the frost of the 17th, now increased and prevailed extensively during the continuance of this warm and damp weather. On the 7th of December it began to turn cold, and on the morning of the 9th the thermometer fell to 30° in the open air — ice in the gutters, and the ground frozen. The cholera was now suddenly checked, as in March—the deaths for the week ending on the 7th having been 121; in the next week, 41; and the next, 24. It would thus appear, that on these two occasions cholera was suddenly arrested by a change of weather, from warm to cold, as occurred here and on Staten Island on the last days of December 1848, and upon several other occasions in this city. Dr. Halphen mentions a similar fact in 1832.

As to the character of the disease here in 1850, I need only say it has generally been the mildest form of epidemic cholera; almost invariably commencing with a premonitory diarrhœa, which, if attended to in time, was easily cured, but if neglected, seldom failed to lead to a fatal issue. I have learned nothing new or valuable in its treatment within the last year. As it has fallen under my observation in this city, I look upon it as the most curable of all fatal maladies *if taken in time*, and one of the most *incurable* if suffered to run into the stage of collapse.

The same strange infatuation in regard to self-security, when it is known that cholera is prevailing,—the same wanton neglect of the timely warning so generally given by the premonitory diarrhœa, which I pointed out in my first paper on the subject, has continued to be observed among all classes of people, rich and poor, white and colored. It seems impossible to impress upon the

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popular mind the importance of prompt attention to the early symptoms of this fatal disease. Precept and example have alike been set at naught by the doomed victim, and even repeated attacks have failed to produce the desired effect. I was called to attend a robust Kentuckian in December, who was suffering from his *third* attack of cholera, and was informed that he came near dying in each of the two first; nevertheless, he would not consent to have a physician called in the last, until he was reduced to the verge of collapse, into which he soon sank, and was lost in spite of the most vigorous treatment I could suggest. I succeeded in arresting the vomiting, purging and cramps, but irreparable mischief had been done, and the system had no power to recuperate.

To illustrate the foolish infatuation of negroes, I will relate the following occurrence: I was called to attend a valuable negro man, and found him laboring under the premonitory diarrhœa; but he seemed to be so perfectly indifferent and unconscious of danger, that it was thought advisable to put him in charge of a more trusty negro, with positive instructions to report to the master every evacuation the sick man should have during the night. At this time, the nurse had not said a word about being unwell himself. Having administered the last dose of medicine and given his instructions, the master retired and slept all night. Very early in the morning I was sent for in great haste, and, on arriving, found my patient completely relieved, but the nurse on the verge of collapse. If the patient had had a single stool, he would doubtless have reported it; yet he permitted the disease to attack himself, and reduce him to this hopeless state, without applying for relief. In the course of eight or ten hours he was dead; whilst the first patient recovered.

The sudden outbreak of cholera upon certain isolated plantations was altogether unaccountable, and sometimes attended with terrific fatality. In my first report, I spoke of several plans of prophylaxis and premedication, but I omitted some facts that are worthy of record.

I know several instances in which intelligent planters, having large families, commenced apparently the most judicious precautions against cholera, as soon as they heard of its arrival on the

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continent. They had all filth removed from about their negro quarters, the cabins whitewashed and lime thrown under them, and strict attention paid to the quality of food used; yet in no instance was the epidemic warded off by these precautions, but in several it prevailed with extraordinary virulence.

The most successful prophylactic course I have heard of was practised by a good Methodist acquaintance of mine, who is a pretty large sugar planter. As soon as cholera appeared on his place, he made all hands quit work, and permitted them to go into a regular frolic. Whiskey and the fiddle were called in requisition, and for two or three days the plantation presented a scene of unrestrained merriment and mirth; he did not permit them to drink to intoxication, but sufficient to produce a pleasant exhilaration. He informed me that hardly a new case occurred after the commencement of the frolic, and he is clearly of opinion that it had a most beneficial effect. I am strongly inclined to concur with him, and should resort to the plan under similar circumstances.

Much has been said since the last visitation of cholera about the exemption of *pine-wood regions* from its ravages; and I am inclined to think there is much truth in the remark. I mentioned in my first paper that in the general *stampede* from this city, on the outbreak of the disease in December, 1848, some negro-traders took their negroes over the lake near Madisonville and Covington, and that they there suffered severely; but the disease did not spread amongst the inhabitants. Dr. Gilpin, a very intelligent physician, who resides at Covington, informed me that he knew several instances of persons contracting the disease here and carrying it over there, but without communicating it to others who remained there. And yet the little town of Gainsville, on Pearl river, which runs through a region of pine, was severely scourged during the last summer.

I have received two interesting letters from Dr. T. M. Logan, of California, giving an account of cholera in that distant region, which will appear in the latter part of this volume.

To return to New Orleans before closing, I know of no locality that has been specially visited by the disease; and notwithstanding the bad reputation of our city in respect to health, it has

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been more favored by cholera this time than either St. Louis or Cincinnati.

This is all I deem worth communicating, at this time, concerning the cholera of 1850.

As before remarked, it still lingers amongst us, and it remains to be seen whether it will again mount up to an epidemic extent before its final departure. *Nous verrons!*

ARTICLE V.

REPORT UPON THE METEOROLOGY, VITAL STATISTICS AND HYGIENE OF THE STATE OF LOUISIANA:

Read before the Medical Society of the State of Louisiana, 7th March, 1851.

By E. H. BARTON, A.M., M.D., President of the Society.

Gentlemen:—On our first organization, I had the honor to be appointed chairman of the Committee to report on the important subjects of the Meteorology, Vital Statistics and Hygiène of this State. On accepting that conspicuous post, I was not unaware of the sterileness of the field I had to work in—of the vast amount of toil to be bestowed to garner up fruits worthy of the Society, such as would fulfil the expectations, nay the *requirements* of science at this enlightened period of the world. I knew from many years' experience, that neither meteorology nor vital statistics were sufficiently prized by most of our cotemporaries here; that, consequently, but few records were kept of them. I shall now lay before you the result of my labors, imperfect though they be, and as our predecessors have signally failed in the performance of their duty—the scantiness of the materials left behind them must disarm criticism I should think, and leave me fair claims to your indulgence.

I. I commence the report at the fountain head—Meteorology; for these two subjects of Vital Statistics and the condition of the atmosphere have the direct influence of cause and effect impressed upon them. I wish to call your attention primarily to this connection, and we shall be the better enabled then to understand the nature of each, and appreciate our true position. In

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the great range of secondary causes, through which the influence of Deity is felt, meteorology is doubtless one of the mighty agents by means of which it is experienced. The subject is *attractive*, as its investigation unfolds the great laws of our Creator; it is *important*, for we cannot understand the great principles of climate and of health while ignorant of it; and it is *interesting* to us, for not a tree unfolds its leaves, nor a blossom expands its petals, nor the great science of agriculture, upon which we depend for our daily sustenance, is cultivated, without unfolding the truths and the science of meteorology. Whether, then, we are freezing under polar snows — scorching under tropical heats, or fanned by the zephyrs of milder regions, it so directly influences all, as to establish the popular belief (in which every man of science concurs), that it has a large share in most of our enjoyments, and materially influences nearly all our ailments. In a southern country, then, where a high range of temperature imparts to man an exalted sensibility, I may be pardoned for inviting your special attention to it.

The application of meteorological science — to the explanation of its influence on the vegetable and animal creation, and on man himself — the different races of man, — on the healthy and diseased condition, — is too extensive to be entered upon on the present occasion, or, indeed, upon any occasion within the proper compass of a single lecture. I can give but a very meagre sketch of the vast subject allotted to me. Vegetable and animal geography is one of the most captivating studies of the vast field of animated nature; but how much more important is that of man — influenced as he is in every latitude by these conditions; but to our profession belongs the speciality of its influence on his health — or *medical geography*. The why and wherefore that plague should exist in one country and yellow fever in another; — that Goitre should exist in Alpine regions, and Plica in Poland; — that Barbadoes leg should prevail in the Antilles and Beriberi in Ceylon; — that Matlazahuatl in Mexico and leprosy in Cuba, and that cholera should not pass the Equator, nor the yellow fever until last year, etc., etc., are as curious as they are well-established facts, showing the different influences of climate upon man. In the more highly advanced condition of this interesting science,

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and probably be enabled to explain the *modus operandi* of this influence, and thus be empowered to turn such knowledge to our benefit. Is not every thing to be expected from its progress, when we state to you that a French mathematician has demonstrated that a flower will bloom when the sum of the squares of the daily mean of temperatures reaches a certain point from the last freeze of winter! and that it has been ascertained that the common lilac blooms when this sum reaches 7607° of Fahrenheit's thermometer, and it has been already proved in relation to the recurrence of yellow fever of Philadelphia, in a series of years from 1793 to 1817, embracing many epidemics, that it occurred in no year when the average thermometer at 3 o'clock was under 79° during the summer, and that the extent and malignancy of the disease was proportioned to the extent in which it exceeded that height;—and that the average temperatures of June and July at that period governs the season in relation to health, insomuch that if, by the 1st of August in any year, the average shall be below that degree, we should feel full confidence that during that season yellow fever will not occur! In relation to this country, although this precise degree does not apply, (in an examination I have made of some nineteen years), yet the principle that the salubrity of the city greatly depends upon the elevation of temperature is fully borne out; and this does not at all detract from the value of the experience derived from what occurred at Philadelphia, for during the period under notice there was a more or less stationary and fixed condition of things in Philadelphia, while here almost everything has been in the transition state, and that though it is one of the most important agents influencing our sanitary condition, it is not the only one. These important statements evince the interest and value to be attached to the study of this department of science, and that it is a duty we owe to society, to the profession, and to our wants and enjoyments, to cultivate it.

I now present to the Society digested records of asmospherical conditions in this State for the last 30 years, made by myself, viz., of 12 years in West Feliciana; of 18 years in this city; of the journal kept by the scientific Lafon, for 1807, 1808 and '10 and 1819, here—of the parish of Rapides for the last 20 years,

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kept by a most worthy gentleman, Major P. G. Voorhies; and also the quantity of rain that has fallen during the last five years in the parish of Plaquemine, by Thomas Morgan, Esq. All these records have been carefully digested, out of which I have constructed Chart No. 1, illustrative, by comparison, of the climate of Louisiana in its different sections.

There are causes influencing our meteorological condition, which, in a proper estimate of our climate, we cannot overlook. I allude to the great modifying power of *large inland bodies of water* upon it. I am indebted to my friend, Professor Forshey, for the interesting computation. The whole area of the State of Louisiana is . . . . . 48.972 square miles:

Of this—

Marsh alluvion, west of delta (or Vermillion river)	2.880	"
Mississippi delta, south of Red river (Lyell's limit of delta) . . .	12.514	"
Mississippi delta, north of Red river (within Forshey's delta) . . .	3.420	"
Red river alluvion above Avoyelles,	1.656	"
Ouachita do. above Bœuf river,	.900	"
Making an aggregate, including flat lakes, of	21.370	"

All this is not constantly under water—but it is so more or less, and *constantly* subject to it. This does not include the alluvions of the smaller streams, and some, he admits, may have been reclaimed by levees. He farther states, that of the whole alluvion, there is uncultivable more than half, say 12,000 square miles, including shallow lakes.

You see, then, that about *one-eighth* of the State is constantly under water, and that more than *two-fifths* of it are subject to inundation. That this vastly influences its *thermal* as well as its *hygrometrical* condition in an annual average temperature of between 60° and 70°, and latitude between 29° and 33°, is too palpable to dwell upon,—indeed we know that it is so, and that if the hygrometrical is enhanced by it, its thermometrical is much lowered. Such I believe to be the fact in relation to contiguous

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territory, and that the climate of Louisiana is much milder and more equable from these causes, than large portions of Texas that are much to the south of us.

With these preliminary data, I propose now to enter upon a somewhat discursive examination of some of the most interesting arcana of nature unfolded by this beautiful science. Not only man, but all animal and vegetable creation is controlled by it. But little examination and reflection will be needed to convince us that it is through the laws of meteorology that the Deity acts (by secondary causes) in controling the actions and destiny of all animated nature.

That the qualities of the medium in which we live should produce disease, when there are great vicissitudes, when we are subjected to them under conditions we are not accustomed to, or when the system shall have acquired increased susceptibilities from other influences, is not at all extraordinary. In fact, it seems to be in precise accordance with the common sentiments of mankind. Medical men, (before the laws of meteorology were understood,) refining upon this universal assent, deeming it too vulgar, or not sufficiently recondite for the mysteries of scientific faith, thought proper to ascribe to another agency the production of the great mass of human maladies. Of the many wonderful powers of this supposititious agent, (miasm,) with attributes certainly incompatible with any known agent, I have nothing to do now; I only call your attention to some of the *sensible properties* of the atmosphere—to show that these qualities, so common as to be passed by almost unnoticed, are of the greatest importance in the preservation of our health, and that, together with personal indulgences and some hygiènic conditions, to be hereafter adverted to, most of the conditions productive of a pathological state are fulfilled. Confining ourselves, then, to the tolerably well demonstrated certainties of science, the cultivation of the profession and the advancement of our art, will be cotemporaneous with the alleviation of human suffering, and we shall be rewarded at each forward step in our career by witnessing the gratifying progress we have made.

Upon inferior animals which have not been endowed with this intelligence, or capacity, there has been vouchsafed a power that

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is an ample substitute for it, in those unerring instincts that urge them to provide for ordinary, as well as extraordinary, seasons—that teaches the beaver to prepare, by an additional story to his retreat, *months beforehand*, for a great overflow,—and the bee to lay up in *the autumn* for a *lengthened winter*. Surely this must be by and through some meteorological condition made known to them through their senses—as yet, so far beyond the reach of scientific certainty;—nay, man borrows information from the birds of the air and beasts of the field, foretelling approaching changes in the atmosphere, and his boasted science is nothing in these respects when compared with the power possessed by the inferior animals to guard their lives from danger. Without this conservative power, probably no race of animals could survive a single generation;—one would die of excessive heat, for which they were not duly prepared; another, from undue exposure to excessive cold; one by the hurricane they now scent at a distance; another prepares for the flood, that otherwise would destroy all exposed to it, and early providence prepares for a scarcity that must result from a condition that is to cause it; nay, we have seen the forest deserted by the feathered tribe, and the heavier beasts retreat to their most retired fastnesses on the approach of pestilence, and only return when it has subsided. That all this is communicated to them, as a strictly conservative power, through some meteorological influence, I do not doubt. That they influence man in the same way, is equally probable. Probably no general fact is more universally observed than the connection of great devastating epidemics with remarkable distemperatures of the air, unusual droughts, or deluges, great extremes of heat or cold, continued calms, or winds blowing for a long time from unusual quarters, hurricanes, etc.—nay, whatever has been unusual in the elemental conditions, so has varied the health of man—indeed, of inferior creation, too, for they have their epidemics as well as man. Astrology ascribed them to the condition and attraction of the heavenly bodies, and various have been the conjectures and superstitions of man in relation to it. The 'constitution of the atmosphere' for good or for ill, with whatever term it has been clothed, has exacted the general credence of mankind.

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It is a curious fact in corroboration of this statement, that these meteorological zones or conditions occur in cycles of tolerable regularity, in periods of about seventeen years. So have been the occurrence of great epidemic visitations—the recent cholera and other disastrous diseases are well-known exemplifications of it. Such lustra, and of about the same duration, have been palpably recognised in agricultural pursuits—in the return of good or bad crops—of the cane dying and being reproduced every seventeen years; and in the animal creation, in the visitations of locusts, the flight of pigeons, etc. By-and-by the returns will be more exact, the coincidence more clearly shown, the law established, or it will be abandoned. The spirit of philosophic research is now abroad, and the lovers of truth will assuredly find it.

Since the birth of meteorology, (and it has been a very slow and tardy parturition,) as it unfolded its treasures, as successive data have been recorded, comparisons been instituted, diseases have been ascribed to one or the other of the changes that have been noted. Certain maladies are known to predominate during certain seasons, and these are characterised by variations of heat and cold; and so of the different climates, north and south. The most remarkable characteristic, and what has earliest struck the attention of mankind, has been the duration of certain temperatures. It was, however, soon seen that variations of temperature alone were not sufficient to account for all the different diseases prevailing in certain seasons and climates, for when these were the same, the influence on the health of man was very different. More or less rain was found to have its influence; so was the condition of the winds; and so of atmospheric pressure. These still not satisfying inquiry into the causes of the influences we experienced, the *hygrometric* condition was investigated, and it was soon seen that the greatest value was to be attached to it—that it was the only varying constituent of the atmosphere,* often independent of rain and temperature;† that it

* For it should be looked upon in that light, though not *technically* so.

† Extraordinary as this may appear to the scientific reader, my journal clearly demonstrates it, and confirms a theory on the subject now in the press, by Professor Espy.

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readily accounted for most of the influences ascribed to miasm. In proportion, then, to the observation of atmospheric phenomena, so have been their connection with morbid condition. It is much to be regretted that scientific meteorology has advanced very slowly, and has not been made a part of medical education, as it should have been, cotemporaneous with pathology.

If man was perfect in his condition, and all hygienic rules fulfilled, and we had the means of knowing *all* meteorological conditions, we should probably be enabled to explain through them his entire liability to disease, and then probably prevent or correct the greater part. Here, with a medium temperature throughout the year of about 67° 4⅞, the winter mean being 54.48, the spring 73.56, the summer 79.38, and the autumn, 67.94, the range during the year rarely exceeding 50°, it is clear that neither the average temperature, nor the extremes, should alone be highly detrimental to health. Doubtless this condition is much influenced by the alternations of land and water; it is thus less hot than if altogether dry, and less cold from the same cause. This condition thus favoring us with regard to temperature, is productive of another result, not so favorable in relation to the hygrometric condition. In Table A you will find the actual amount of moisture in the atmosphere, both on the thermometric and hygrometric scales, its elasticity, the number of grains of moisture in each cubic foot, and also the drying power, or force of evaporation, three times a-day, for each month in the year, for an average of a long series of years, furnishing a very correct estimate of the climate in these highly important particulars.

The *hygrometric* condition is less known and appreciated than any other, and probably more nearly influences our sanitary state and enjoyments. Its frequent and great changes are often mistaken for *thermometric* alterations; many persons, feeling the change they experience, are astonished, on looking, to find the stationary condition of this latter; and these changes are sometimes very great. So far as philosophical experiments have gone, hardly a doubt exists of the fact that the winds that have obtained their appellations (such as the simoon, kamsin, etc.) from the pestilences they have borne upon their wings, have

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derived their qualities mainly from their hygrometrical states;—one is loaded with vapor, saturates the atmosphere, prevents the decarbonizing power of oxygen on the blood, relaxes the system, increases the freedom of the secretions by which the blood is impoverished and kept prepared for the important purposes of life; while another, on the contrary, desiccates the blood, dries up the secretions by which it is depurated, and arrests vital action by rapidly depriving the system of the fluids requisite to sustain the organs in the due performance of their functions. In either excess, then, life is jeoparded, and much more than by mere extremes of temperature. This is clearly proved by the fact of the sickliest countries and seasons having the highest dew-point; that in elevated, or other regions, or at sea, where the highest salubrity is enjoyed, a medium hygrometric state is usually present, except when influenced by a prevalence of particular winds, that convey certain amounts of moisture with them. I think the present state of meteorological investigations will authorise me to announce these as *established facts*.

Table B furnishes you the *hygrometry* of the different winds blowing over New Orleans during an average of near eight years. They are doubtless much influenced by the remarkable manner in which the great delta is variegated with alternate expansions of land and water, viz., that all the northern winds, and even the western, have their dryness much decreased by blowing over large bodies of water; and my impression is, that Lake Pontchartrain will actually one day materially aid in protecting New Orleans from the violence of pestilences, by furnishing a moderate moisture to the atmosphere, and lessen that desiccating power that usually prevails at those periods when the swamps to the east and north-east of us are dried up. The modifying influence of a body of water of less than a mile in breadth, is conclusively shown by the difference between the two banks of the Mississippi river, where it runs east and west, the south side having a milder climate—vegetation earlier advances in the spring—the cane has a longer period to mature in autumn, and fruits that are occasionally cut off by the severity of weather on the north bank, are uninfluenced on the other.

I present you Table C, showing you what is the prevalent wind

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during each successive month and season, on an average of ten years.

On an inspection of Table B, you will observe how much the moisture is increased during a CALM — that here it always exhibits the maximum of moisture. This condition of atmosphere is, fortunately for us, very rare in this country, unless artificially produced. Stagnation in air or water, nay, in any form of vegetable or animal life, seems to be against the laws and will of Providence. In air, where it exists for any length of time, there is hardly comfort, health, or even life. There are but two places on the globe mentioned by travellers — 'valleys of the shadow of death' — that cannot be visited by animated beings and returned from alive; places whitened by the bones of the victims of temerity, where, it is even said, that birds cannot fly over with impunity. In these positions, with a stagnant air, (and consequently high dew-point,) no change takes place, and it is in a position approximative to this that goitre and cretinism occur. There are deep ravines or gorges in the upper part of this and the adjoining States, near to which it is utterly unfit for man to reside, and especially at their outlets, (I speak from personal experience.) Occasionally, a body of air passes out of these hollows which is particularly injurious to the health of man. There, then, of course, with a stagnant air, is a high dew-point. Such, too, is the influence on health — and remarkably so in a warm climate, of living in houses that cannot be well ventilated, and having yards in which all the filth is located, where neither the light of heaven nor a breath of air can reach.

Stagnation in air or water is always more or less accompanied with impurity. Such, too, is the necessity of circulation in the great body of water which surrounds the globe, that an all-wise Providence has everywhere distributed it in currents, making it useful to its inhabitants, as well as man. Change, then, is the great law of being — it is essential both for purity and health.

The constant perflation which our position guarantees us, not only dries the country more rapidly, but cools the body down to the dew-point, or near it; certainly a most important, though unregarded, fact. From experiments instituted, it has been clearly proved that the quantity of fluid removed from the

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system is nearly three times as much in a moderate breeze, and upwards of four times as much in a fresh wind, as in a calm or stagnant state of the atmosphere.

But there is another condition of the atmosphere almost as much overlooked as the hygrometric, and probably as much so, in a hygiènic point of view; I allude to the weight, or pressure of it, as indicated by the *barometer*. From the weight of the air being measured by mercury, which is so much heavier than air, (11,026 times,) the changes indicated by it are comparatively small. When the barometer is made of water, (which is only 815 times heavier than air,) the almost constant undulations and vibratory movements of the atmosphere are very apparent, and we can readily understand why more or less of this pressure or weight should influence us, not only in health, but disease. This will be better appreciated when we reflect that every square inch of our surfaces is exposed to a pressure of 14.6 lbs. Allowing, then, the surface of a man's body, of the medium size, to be 15 square feet, or 2,160 square inches, he suffers the enormous pressure of 31536 lbs., or more than fifteen tons! It is, nevertheless, passed by unnoticed by us ordinarily, because the pressure within and without are equal. Not so, however, with the *variations*, and, if we analyse them, they will appear immense. For instance, a fall or rise of $\frac{1}{10}$ of an inch (of the mercury) indicates a difference or removal of 100 lbs. to the square inch; of $\frac{2}{10}$, of 200 lbs.—not at all unusual in this country, though much more common to the north; a fall of $\frac{5}{10}$, of 500 lbs.; of 1 inch, of 1000 lbs.; of 3 inches, of 3000 lbs., etc. When the barometer falls, instead of feeling 'light,' as we should by the removal of any other weight from us, our breathing becomes difficult, feeble, frequent, and often terminates in an asthmatic paroxysm; the pulse is quick and most compressible; hemorrhages often occur, with a tendency to fainting; the secretions scanty and easily suppressed, and, at length, with a farther and greater exposure, apathy supervenes; we feel sluggish, heavy and spiritless, owing to the excessive expansion of the fluids in the vessels; we experience the want of that tonicity which braces us up, and we denominate it, by a singular perversion of sense and language, 'a heavy atmosphere'! That such a condition of

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atmosphere should affect our healths is, on the least reflection, not at all extraordinary— and such is the fact. Illustrations in abundance could be furnished you—my time warns me to be content with one, and that relates to the City of Mexico. This large and magnificent capitol of that once wonderful people, is situated at an elevation of about 7.700 feet above the level of the sea, or our level, and, accordingly, disease is here modified by a pressure and elasticity due to a removal of near 15,000 lb. weight, arising from a barometric pressure of little over 25 inches, or near half the atmospheric pressure. And what we should theoretically anticipate from this condition of things, is actually found to take place, and that the diseases of the *thoracic cavity*, with a few of the liver, (and these mostly of abscess,) and a large proportion of dropsies, contribute nearly 34 per cent. of the entire mortality, calculated from an aggregate of a series of years, most carefully, by myself.

Farther to illustrate my position of the more or less influence of the pressure of the atmosphere on our systems, I will mention another, but opposite, example, the results of some experiments made by M. Junot, and described by him in the *Archives Générales de Médicine*, to show the bracing and cheering influence of *condensed air* on the system. It was found that a person so exposed, breathes with increased facility; he feels as if the capacity of the lungs was enlarged—his respirations become deeper and less frequent—he experiences in the course of a short time an agreeable glow in his chest, as if the pulmonary cells were becoming dilated with an elastic spirit, while the whole frame receives at each inspiration fresh vital impulsion; the functions of the brain are excited, the imagination becomes vivid, the ideas flow with delightful facility, digestion is rendered more active, as after gentle exercise in the air, because the secretory organs participate immediately in the increased energy of the arterial system. These experiments were made on persons in a mine in France, where men worked with a pressure of three atmospheres. Upon many of them the first sensations were painful, especially upon the eyes and ears, but ere long they became quite reconciled to the bracing element. Old asthmatics here become effective operatives, deaf persons recover their hear-

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ing, while others are sensible to the slightest whisper. The latter phenomena doubtless proceeds from the strong pulses of the dense air upon the membrane of the drum of the ear. Men who descend to considerable depth in diving bells, experience a considerable augmentation of muscular energy; it infuses into the muscles such power, that they can easily execute double the work, without fatigue, which they are enabled to execute in the open air; they thereby acquire the power of bending over their knees strong bars of iron, which they would find quite inflexible by their utmost efforts, when drawn up to the surface.

From these statements of the effects of meteorological conditions — and they might be greatly enlarged — it is apparent to every one that their influence is very great. I now again invite your attention to Chart No. 1, giving a bird's-eye view of these variations, on *averages* of every month in the year (of course the *extremes* would exhibit them more palpably). There are two lines wherein are traced the temperatures for this city for every month in the year; and the Charts Nos. 2 and 3 will exhibit the mortality during the same period. No. 2 will show the different effects of the climate on RACES of the *same age*, (white and black) and No. 3, the direct effect on the mass monthly. Here, then, several facts are most clearly and palpably exhibited: first, the different mortalities for the different months; second, the modifying influence on the black and white race of the same age; third, the diverse effect on the different sexes of our own race, the cause of which I shall advert to hereafter. The slightest contemplation of these Charts will satisfy every one of the intimate bearing of meteorology (or climate) upon mortality.

Now, the important practical question arises, how far is it in the power of man so far to modify these conditions, when in excess, as to ameliorate their injurious influences. It is gratifying to state that much may be done in obeying the great command 'of subduing the soil and adapting it to the purposes of man;' by removing the forest growth, draining the swamps, and cultivating the soil, we lessen the amount of moisture, (which with us is of the greatest injury,) not only from the extent of area exchanging its moist, to a dry, condition, but we increase the perflation thereby, and hence, by increasing evaporation, (the

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drying power,) and lowering the dew-point, we actually lower the temperature. This has been really accomplished here in relation to temperature, for, by comparing Lafon's tables of average temperature for New Orleans in 1807, '10, with the temperature observed by me here, 1833–'50, the average is less by nearly 3°, while the extremes are less. Chart 1 contains these two lines of temperatures, for comparison. The same Chart embraces, also, the average monthly temperatures of West Feliciana and Rapides, and are so designated; while below is demonstrated the DRY and RAINY SEASONS of four different sections of our state. Three of these correspond, viz., those of New Orleans, Placquemine and Rapides; while that of West Feliciana, although an average of about 13 years, seems to have had *three* rainy seasons; it was then at a somewhat earlier period than of the three first, and may be considered in its *transition state*, being cleared of its forest growth mainly since that period; it has probably obeyed what is more likely to be a law of the climate in relation to other portions.

II. Let us proceed to the second branch of our subject—"The Vital Statistics and Hygiène of the State." The period adopted for taking the mortality of the State, with its census, has been an unfortunate one for Louisiana, for during the whole period embraced under the order to the marshals and their deputies for this enumeration, viz., the year ending in June, 1850, has been precisely one of those periodical cycles alluded to in the former part of this report as about the septemdecennial period for the return of epidemic cholera. Such has been the fact, and large mortality has resulted in the whole zymotic class (to which cholera belongs); for although I have been enabled to separate the cholera from the other mortality in most of the parishes, yet the mortality has been much larger in the congenerous diseases of that class, than usual; and many parishes of the western district of the State, (see table E),* where we know that the mortality is not in ordinary years more

* I am indebted to the politeness of Colonel Labuzan, deputy marshal, for most of this important and interesting table, and to C. Gayarré, Esq., Secretary of State, for the separate column of cholera in table E.

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than one to one-and-a-half per cent. has been made, by this return, to show four, five, six, eight per cent., and upwards! This is to be deeply regretted, and the only remedy to be found is in the enactment of a registration law by the State legislature, through which the actual sanitary condition can be made known annually. From this somewhat sombre picture, let us turn to the Eastern District (see table F), which exhibits a degree of salubrity probably not surpassed on the globe. It will be observed, (for the aid of memory and observation) I have classed the parishes in both districts, into RIVER, SWAMP and UPLAND, according to their geographical location, at the foot of the table, and it will be seen that the average of the SWAMP parishes of Louisiana, which have heretofore been characterised, by those unacquainted with our State, as the dread and perennial abodes of disease and death, the mortality, (deducting cholera), has been less than one-half of one per cent. per annum (0.44), with the whites, and with it but $\frac{44}{100}$ of 1 per cent! In the river parishes it was a fraction over 1 per cent. (1.03); and with the upland, 1½ per cent. (1.57)! We should be amply satisfied with this showing, and it is the only answer that is required to the blasting and enduring criticisms upon the salubrity of the rural districts of this country, which have so long abused both popular and scientific credulity abroad. I am duly sensible that the country is much more healthy now than when first subdued to the purposes of culture; it then partook, with all new countries, of the maladies incident to a change from a state of nature. Its sanitary condition since has been constantly advancing, under the ameliorating hand of cultivation, and probably no part of our common country is more favored with this choicest of blessings. In comparing the western with the eastern districts under the classification I have adopted, it will strike you how different they are as to salubrity — how much more healthy the eastern are; it is easily explained: all agricultural countries are most sickly when first opened to cultivation; — the eastern have passed through that lustrum — the western are now suffering under it.

With this cheering view of the salubrity of our rural districts, let us come nearer home, to one where the improving hand of man, although it has done something (but for the most part incident-

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ally), yet much remains to be done, that experience, reason and science most unequivocally point out as *indispensable* to our progressive advancement. Neither our geographical nor topographical position, nor climatural influences, discourage the hope nor the prospect, that with proper care we can approximate that degree of salubrity enjoyed by the country around us. The permanent prosperity of this city mainly depends upon the degree of salubrity that is to be attained and enjoyed by the *mass* of the inhabitants,—not the wealthy portion, merely, who can take the 'wings of the morning and fly to the uttermost parts of the earth,' but of those that are to live and toil here all the year long, and also of that large class who visit us not only for the purposes of business but of pleasure. The subject, then, is of the last importance to us, and upon its proper solution depends our future welfare and advancement. Railroads, canals, and steam lines, are certainly of great importance; I would not underrate them if I could, but their primary tendency is to make your mart but a GREAT FACTORAGE—a depot for the sale and interchange of commodities, which can be effected in a few months. If the mass cannot be reasonably sure of living here as long as elsewhere, these facilities will only increase that system of absenteeism which is now retarding, like a curse from God, the population and progress of a city blessed with natural advantages which no other city on either continent, possesses. Two great difficulties encompass this subject, the removal of which is absolutely essential to its thorough investigation: the first is the great error under which we have long labored in relation to our salubrity; and the second is, the procurement of the actual facts to ascertain what that condition has been. The first is palpably a preliminary, for it is obviously useless, if not hurtful, to attempt an improvement, when it is believed none is needed; and to apply a remedy where there is no disease, and especially if this shall be an expensive one. 'If ignorance is bliss, it were a folly to be wise.' Here, however, the reverse is the actual truth; and it requires some moral courage to disabuse a community of a long and deeply-cherished error. We hug our chains with delight, and stone the man who will attempt to convince us that they are but the chains of sciolism and ignorance,

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forgetful at the time that we but deceive ourselves, and that the world is not to be gulled at this enlightened epoch by our assertions, when unsupported by facts, and our self-complacency, when not based upon truth. Of the second, any one can convince himself who will undergo the arduous labor of seeking for such a record of births, deaths and marriages, as is kept by every other enlightened city of similar dimensions and importance. I trust, however, before the conclusion of this report, not only to prove to your satisfaction that you have long labored under a very serious error — one, in truth, very fatal to your prosperity, but that sufficient facts have been gathered, by years of research, to point out wherein it has existed,— enough to warrant the conclusion, that the 'conviction of an error' is, in this instance, at least equivalent 'to the establishment of a truth.'

The Vital Statistics of this city have been, until comparatively a recent period, almost untrodden ground: 'the horrid devastating epidemics' have been written of and described; the forbidden months, 'the dead season,' have hurried thousands from our midst upon the wings of wealth; catacombs of those who dared to tempt the lurid shores, or were destitute of the means of flight, have been long buried with their hopes, and been rapidly forgotten. The survivors alone have been counted; the dead have not been missed in the mighty throng that the love of thrift has brought to succeed them in the large spoils here offered to the industrious and enterprising, and the city has been characterised abroad as a great Golgotha, and signalised for its perennial pestilence. And what RECORD has been made of the *past*, for the benefit of the *future?—that future which to us is the present!* For more than fifty years this important entrepot has been in possession of a race believed to be the most intelligent and enterprising of all that dwell upon earth; yet they, in the great contest for mammon, have left but few records to tell us of that past, as a beacon and warning for the guidance of the future. The value of that knowledge will be appreciated, when we reflect that we grow wiser by degrees; that our present suffering depends upon our ignorance of the past; and to successive generations, the future can only be instructive, when the errors of the past are pointed out, and shunned as objects for our avoidance. To be

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sure, suffering is the chastisement, in the hands of Wisdom, out of which is often wrought the most eminent good. The effort, then, that will carry success with it, will show that the chastening and the love have gone together.

The statistical data forming the basis of this report have been the slow accumulation of years, nor can I answer for their entire reliability; but then they are the best established facts I could procure on the subject, and it becomes us, as professional men and philosophical observers, to scrutinise them closely,—if they are false, to prove them so; for it is not by *denying* them, that we can correct the insalubrious condition of this city. Let us obtain the *truth*, by all means. If insalubrious, let us, by patient investigation, and putting all the facts within our reach together, ascend to the *causes*, and correct them, if possible. This is the true mode of being a real friend to our country, and not by flattery and concealment of the truth; for in this way we only deceive ourselves. No one abroad gives credit to the oft-repeated assurances of the salubrity of the city; and its influence, so far as believed by us, is most fatal to our safety, for it only superinduces that self-satisfaction at our situation, and apathy and opposition to improvement, and particularly if expensive, that presents an effectual barrier to our advancement. Figures (that is, statistics) is a great leveller; they are inexorable; they have little respect for partialities or prejudices; they often deal harshly with theories and speculations; they serve to correct the extravagancies of the imagination, and are often the surest tests of truth. The theory that cannot abide numerical ratios from well-ascertained and properly recorded facts, advances us but little, nay, retards us, in our progress towards true and exact knowledge. By their means we are enabled to remove the proverbial taunts of which our profession is the 'scape-goat.' They must put an end, if anything can, to the false facts which have so long cast derision on the profession. This, if anything, must place our noble calling on the list of the exact sciences, and aid largely in the safety and duration of human life.

In a State like Louisiana, whose main population has been made up by immigration, and that mostly within the last thirty

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years, whose floating population has always been so large, and particularly in the cities and towns, (and there are no records to separate the native from the immigrant,) we are deficient in the main means, the basis, to acquire a knowledge of the effect of the climate upon health. This, however, is the less to be regretted, because the country is new — is constantly undergoing vast changes, which must, and always does, affect its sanitary condition.

You will have observed, in Table F, the ratios of mortality in the city and country are very different, and I could readily have furnished you extensive proofs of this general, and, indeed, universal fact. The causes are very obvious: — the population of the one lives in a crowded workshop, as it were, and breathes a confined and impure air; the population of the other spend the greater part of their time in, and breathe the pure air of heaven, where its impurities are diluted, scattered by the winds and oxydised in the sun, and where vegetation is constantly incorporating such elements as are noxious to man; while in cities, in proportion to density of population, there is constantly and insensibly thrown off an atmosphere of organic matter, which 'hangs over cities like a cloud,' slowly spreading, dispersed by the winds, and washed down by showers. 'It is a matter which *has lived*, is dead, has left the body, and is undergoing oxydation and decomposition into simpler than organic elements. The exhalations from sewers, church-yards, vaults, slaughter-houses, cess-pools, commingle in this atmosphere as polluted waters enter the Thames, (I am quoting from the report of the Registrar-General of England, but the same is equally, and, I will prove presently, more applicable to us,) and, notwithstanding the wonderful provision of nature for the speedy oxydation of organic matter in water and air, accumulate, and the density of the poison (for, in the transition of decay, it is a poison) is sufficient to impress its destructive action on the living, to receive and impart the processes of zymotic principles, to contaminate by a subtle, sickly, deadly medium, the people agglomerated in narrow streets and courts, down which no wind blows, and upon which the sun seldom shines.' It is to this that the high mortality of towns is owing, — living in and constantly

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breathing an atmosphere charged with decomposing matter, of vegetable and animal origin; and, however small the quantity, even beyond the reach of chemical tests, we have abundant proofs of their existence, besides their effects, from comparative conditions. 'Sulphuretted hydrogen and ammonia, and other gases, may be diffused in quantities so great as to be detected by the senses, or by chemical analysis, or so minute and inodorous as to escape detection, and, in either case, may be the cause of disease. Some idea may be formed of the almost infinite divisibility of matter diffused in the atmosphere, from the fact that the hound, in the chase, discerns the tract of man and animals by the odoriferous particles thrown off from their foot-prints, and that we detect the odor of musk, notwithstanding the single grain from which it proceeds was deposited twenty years previous, and has since been constantly diffusing its particles in the surrounding atmosphere. The experiments of Thenard and Dupuytren proved that birds perished when the vapors of sulphuretted hydrogen and ammonia exist in the atmosphere to the extent of a fifteen-thousandth part, and that dogs are deprived of life when the air they breathe contains a thousandth part, and that a man cannot live when the air he inspires is impregnated with a three-hundredth part, and suffers in a corresponding degree when a less proportion of these poisonous gases exist. Persons frequently fall dead when entering a well, vault, tomb, sewer, or other place filled with these gases, or with stagnated air, in which are diffused emanations from decomposing animal, vegetable or mineral substances.' Leibig, with all the appliances of the Giessen laboratory, cannot yet detect any difference between the pure air of the Alps and the air through which the hound can tell a horse, a fox or a man has passed, or the air which observation shows will produce small-pox, measles, scarlatina, whooping-cough, dysentery, cholera, influenza, typhus, plague.* Man himself cannot breathe the same air with impunity: every minute of every day he appropriates to the vitalization of his blood twenty-four cubic inches of oxygen, and supplies its place with twenty-four inches of carbonic acid gas. When present in large quantities, from whatever cause produced, carbonic

* General Report of the Board of Health of England.

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acid gas is destructive of life. Charcoal burning in a close room is a familiar illustration.

Such, then, is the immediate cause of the difference between city and country; and we shall perceive presently whence they proceed, and how far they are removable. The great mass of mankind is ignorant that, with the tempting and fascinating allurements of a city life, they are constantly inhaling the poison and imbibing the draught which will shorten their days, because their attention is not drawn to them, and they leave it to others, whose duty it thus becomes to apply the proper remedies. The great difference that exists between the mortality of city and country is well known; it sometimes amounts to near forty per cent. The cause is quite as well established. The inhabitants of a city are constantly deteriorating in vitality, and in the course of years whole families frequently waste away and become exinct, from this and other causes, unless recruited by a union with others from the country; and it is well known, most large cities are so sustained and increase. I have no room for details.

Let us apply these principles to New Orleans; but we will first present you the facts as far as they could be procured, of our mortality here, as far back as 1787, with gaps which no industry of mine could fill up. Upon this we base our deductions, (see Table D). To make up this table, I have not been able to deduct from it the accidents, and the numerous causes of death other than *disease*, nor have I deducted the epidemics, or been able to ascertain what portion of the population, native or immigrant, have fallen victims; but I have taken the *whole mortality* as I procured it, and have computed the per centage as usual. If the showing is a bad one, the *greater will be the need to remedy it*, and it will be shown in the sequel that this is much in our power.

In a country whose population is mainly made up by immigration, and in which the great influence is mostly felt, the *actual mortality* that occurs in the population *de facto* is the one of real importance, and not its influence on the native; and it is of little practical importance now, to inquire what may be the effect of the climate on the native. There is little that is permanent in the condition of the country; it is, has been, and will be, for a long time, in what may be termed its TRANSITION STATE.

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When most of the physical changes, as draining, clearing, canaling the country, with such paving, sewerage and policing, as is indispensable for a fair trial of the position, is made, it will be time enough to discuss the effect of a stationary condition, and by that time we shall, probably, be supplied with some records, better than opinions, as a foundation to speculate on. This is the more especially true, because, with the changes induced in the country by its reduction from a wild forest growth to a high cultivation, the health of man particularly suffers; for in either of the two extremes, of a state of nature and a general cultivation, there is general health, with exceptions easily explained. Hence, then, the actual mortality in the *statu quo* is sufficient for our purpose; in fact, we are limited to that, as there are no details of their separation, nor even if we had them would they be of much practical value, unless we had a distinct acclimating disease, putting the acclimated and the native on the same footing. But how is that possible in a physical condition, on which it depends, which is constantly changing? A mere reference to the dates of these great improvements, whose influence on health at the moment is generally considered injurious, however beneficial afterwards, will convince you that there has been no stationary condition, for any great length of time, in and about this city, for more than sixty years, but more particularly since the digging of the bank canals; from the excavation of the Canal Carondelet, in 1794,–'7, to the digging of the canals in our rear, to drain, and the draining and removal of the forest growth in our swamp, which was, in fact, only completed during the last year. The Table D has the dates of these improvements. Hence, then, the discussion of the existence or necessity of any specified acclimation is pretty much superseded; for it is very doubtful if there can be any acclimation in a city whose *status*, or condition, is not somewhat stationary,—whose essential climatural features (or at least those which so greatly influence health) are so constantly varying. It is my impression that there cannot, and such is the result of my experience and observation. Indeed, the whole subject of acclimation, or the effect of habituation to a country protecting the party from the endemic diseases of that country, has been much overrated. Such acclimation is not even

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pretended to be extended to northern climates, but why it should be limited to southern ones is not alleged. An examination into this subject, by the British army surgeons, both in the East and West Indies, shows that there exists no such protective influence. On the coast of Africa, no such immunity (nor in Egypt) is acquired,* and I am yet to be entirely satisfied that, of late years at least, such safety has been acquired here to any great extent, during the progress of the great physical alterations of which our city and neighborhood have been the theatre.

YELLOW FEVER, the great acclimating fever so called, (and it is doubtful whether there is any other, and none such has been alleged) was formerly easily characterized; its symptoms were less equivocal than they have been since, and no doubts were expressed in giving its appellation at an early period. For the truth of these statements, I must refer to the definite recollections of my cotemporaries of former times. The vast physical alterations to which I have reference, commenced to have more palpable progress but a few years previous to the division of the city, in 1835, and in 1836 there occurred a type of fever that the most experienced among us, at that time, were slow in christening as decided cases of yellow fever; and really there were numerous cases that we adjourned over the decision of until the subjects of them should be exposed to a fever of a more decided and unequivocal type. Ever since that period equivocal cases have been constantly occurring, and the more so of late years, so as to give rise to the question, often asked and discussed, of 'what is yellow fever?' and to the opinion expressed by several of our most experienced practitioners, that yellow fever often occurs in the same individual more than once, or, in other words, is no longer *a preventive of itself;* and hence, is no longer an acclimating

* I give the following table to show the difference in the mortality of different races during the plague at Alexandria in 1835:—

Negroes and Nubians	lost 84	per cent.	of their population.
Malays	" 61	do.	do.
Arabs (not soldiers)	" 55	do.	do.
Greeks	" 14	do.	do.
Jews, Armenians and Copts	" 12	do.	do.
Turks	" 11	do.	do.
Italians and others from the south of Europe	" 7	do.	do.
French, English, Prussians and Germans	" 5	do.	do.

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disease; and that it occurs in the natives of the city, even at the earliest ages, (never alleged formerly); which, if true, settles that question. For the very idea that there is something specific required, arising from physical condition, to acclimate one to a place where an individual is *born, and has never left*, appears to me unnecessarily refined and entirely untenable. It has been expressed to me by some of our oldest inhabitants, those who have been observers of the disease twenty or thirty years ago, that it was no longer the same disease; that, in fact, the unequivocal malignancy and peculiar type which characterised it exists no longer; and this is most amply verified by the symptoms, aspect and history of the disease in its various stages, as seen and described by those who had witnessed it from 1804 to 1823, now in my library; and that for some years back it has been blending itself with the ordinary diseases of the country. I have elsewhere expressed this opinion, and have formed it after due deliberation.† Every now and then, we nevertheless meet with cases where there is no room for doubt, but they bear a very small proportion to the mass of cases which occur here every year.

This position is fully sustained by the record I now give, the result of an investigation into all the yellow fever years of which I could procure the details, and fortunately, after much research, I have been able to obtain those of the worst years. The disastrous year of 1847 may be considered an exception, and the remarkable mortality then may, in part, be attributed to the large temporary influx to our population, arising from a state of war, and 20,000 troops, with their proverbial recklessness, encamped for some time among us; and, also, that of later years, many

YEARS.	PER CENT. TO TOTAL MORTALITY OF THE YEAR.	RESULTS OF PERIODS.
1817	33.86	
1819	19.87	
1820	22.66	
1822	29.55	26.48
1829	35.71	28.13
1833	22.08	26.12
1839	22.45	
1841	29.84	
1842	10.78	19.74
1843	15.89	
1846	3.16	
1847	30.26	
1848	10.84	10.57
1849	7.79	
1850	1.33	

† Board of Health Report for 1849.

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cases have been 'docketted' as yellow fever which would not have been so denominated in 1817,'22, etc. These valuable facts, taken in connection with what has been accomplished in other countries, (mentioned in a preceding part of this report,) and particularly in Egypt formerly, will fully bear me out in the opinion I have expressed, that, with the *completion of our physical improvements, yellow fever will have disappeared from among us.*

The facts — the painful, stubborn facts, which we can neither evade or deny, are, that for the last ten years our mortality has been upwards of 5½ per cent. per annum; and it is of a people who must be presumed to have had fair average constitutions, brought here, or raised here. They have died from *some cause* — they have died from *disease;* and it is immaterial whether it is called 'acclimating fever' under which they sunk, or intestinal, or pulmonary disease: it is the fact of death and loss to the public which is to be considered. Nor do I think it very material whether the mass of the mortality is of the recent arrivals, or not; it does not favor the argument, for, if they have been here but a very short period, the climate, or something, must be extremely lethiferous to have killed them so soon.

The term acclimation is very indefinite, so as to apply to records in civil life that can be of any use to the statistician. If it is confined to *yellow fever*, there is no record of it unless the subject falls a victim to it. There is no period of residence that will *certainly* exempt one from it, and the cemetery records show the fact that people sometimes die of yellow fever after having been here five, ten, or more years. Residence, then, does not prove it, for people die of other fevers, and all the class of zymotic diseases, after two, three, five, ten, and more years. Hence there is no immunity from death from fevers, and the nearest approach to it here, as elsewhere, is to be derived from the correctness of individual habits, and particularly in relation to temperance. It is unquestionably the result of experience, that these habits have a more injurious influence in this climate than farther north. This important truth is only in accordance with the characteristics of all warm climates, where it is universally acknowledged that such habits almost uniformly abbreviate

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life, by acting in a line with all the injurious influences of such climate; accordingly, perhaps the most temperate people are to be found in warm climates.

All large cities are mainly aided by accessions of population from extraneous sources; to attempt, then, to separate this population, which in many American towns is so very large, would be, firstly, an impossible thing, and secondly, would be of little comparative avail, if accomplished. Although a large proportion of the mortality may be derived from the recent arrivals, yet he who has frequently examined and studied the Cemetery reports, (as every man who pretends to a desire to reach the truth should,) will be satisfied, that a large proportion of the mortality is also derived, not only from the natives, but from those whose residence here has been five, ten, twenty, thirty and forty years; but whether they have been here a longer or a shorter period is really of very little importance—the character for salubrity must be derived from the fact of their living or dying: now whether this takes place during what some are pleased to term the 'acclimating process, or period,' is of very little consequence; the stamp of vitativeness is what is desired, and the real question is—whether the chance of living in this city is as good as it is elsewhere in the ordinary fluctuating condition of the population, which characterises all American cities at least, and if not, what can be done to make it so, and what are the remedies to be applied?

The only application I propose to make of this remark is, that, with the extension of our improvements, the climate is becoming ameliorated, and that when, by the application of science and skill in completing the alterations in our physical condition, which can easily be accomplished, and the climate shall become fixed and stationary, my impression is, that the bugbear of yellow fever will have disappeared from among us. This is not only not unreasonable, but in accordance with all experience in various parts of our own country, where this formidable disease has been finally shut out by sanitary regulations. Passing from this, with which you are all familiar, I will mention some that are still more striking from abroad. England was in the seventeenth century desolated by plagues; it has disappeared under the influence of

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these very regulations. Such, too, has been the fact in the greater part of Europe, where (in many parts of it) the average duration of life, up to the times we live in, has nearly doubled from the same cause. But I pass over these and nearly all the cities to the north and east of us in our own country, where it has been put to defiance by the strictness of their police regulations, to invite your attention to a country and climate in so many respects identical with our own, that I am sure it will be both striking and interesting,—I mean Egypt. The plague (which to that country is what the yellow fever is to this) exists in a sporadic form every year, and the epidemic form about every ten years, and where during a recent outbreak (in 1835) it was fatal to upwards of 66 per cent. of its inhabitants! nay, I may say, *natives*, consisting of Negroes, Malays and Arabs. I gave in a note to a preceding page the relative mortality, the difference falling upon the populations in close proportion to *their general sanitary condition*. The mortality was least among those Europeans who live in airy well-conditioned houses, and severest on those who live in the most crowded and filthiest manner. If we consult history, we shall find, that during the reign of the last of the Pharaohs,—during the 194 years of the occupation of Egypt by the Persians,—the 301 years during the dominion of Alexander,—the dynasty of the Ptolemies and a great portion of that of Rome, EGYPT WAS FREE FROM PLAGUE! This absence of any epidemic for the long space of time during which good administration and the sanitary police of the country conquered the producing causes of this most formidable malady, justifies the expectation that the same appliances will be followed by the same results here.* This should be very solacing to us, and should arouse and direct those energies, of which we have more than any other people on the face of the earth, and for the best reason, we are the actual beneficiaries of them, to adopt such remedies as will speedily correct the mortality now existing, and furnish the blessings of health to the finest country in America.

In elucidation of this great subject, let me now invite the attention of the Society particularly to the coincidence, if not

* See report of General Board of Health of England.

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the connection of the great physical changes, noted in table D, with the salubrity. Thus, we had the first advent of yellow fever during the digging of the canal Carondelet, in 1794–'97. There was a great crevasse in 1816, and extensive paving in 1817—previous to the great fevers of 1817, '19;—extensive pavements in 1824, and up to 1832. The average mortality then was, you see, very great—more than five per cent. In 1830, a violent storm drove the waters of the lake up to Dauphin-street. In 1832–'5, we dug the great canal of the Bank, costing the lives of some 6 or 7000 of its laborers: what effect it had on the two great epidemics of cholera and yellow fever of 1832–'3, I leave it for you to judge. In 1836, the draining machine drained the large section below the canal Carondelet, and in 1835–'9, the forest growth was removed. We had epidemics in 1837, '9, '41: during 1845–'50 the important section betwen the two canals just in the rear of the heart of the city was cleared, and the immense canals dug and the whole drained; and the crevasse of 1849 extended the inundation of the river as far in the centre of the city as Carondelet-street. What influence they had on the disastrous mortality of 1847, '8, 9, and '50, of cholera and yellow fever, will not be left in much doubt, after the preceding statements. These coincidences are, at least, very remarkable; but that they have connection, seems to be in accordance with all experience of the effect of first disturbing the virgin soil of a country, and laying it bare to the influences of an almost tropical sun; of which examples enough might be adduced. These valuable statistical facts will also convince you of the propriety of making, *at once*, all those alterations and improvements in our physical condition upon which our future salubrity so much depends, and that they should be made during the winter season,* to which little attention, I believe, has been paid heretofore. But that all these improvements will finally restore salubrity to the city, is demonstrable *a priori*, from all that has occurred, not only in our own country, but abroad.

I have heretofore limited myself pretty much to the suburbs and neighborhood of the city, and to general causes showing con-

* See, in Chart No. I., the line of relative mortality of each month in the year.

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ditions that have been most disastrous to the health of the place: let us approach a little nearer, and enter the city itself, and see if we cannot discover conditions deeply affecting its salubrity, and which would be highly injurious even in the latitude of fifty, much less at thirty.

The population of New Orleans and Lafayette, by the recent census, amounts to about 130,000, being near 18,000 to the square mile, showing by the census returns 6.16 to each house, with an average annual temperature of about 67°.

Let us see, then, to what the insalubrity of our city is mainly indebted. It is impaired by—

1st, Bad air;

2d, Privies, Cemeteries, various manufactories, stables, slaughter houses, etc.;

3d, Bad water—stagnant water;

4th, Bad habits;

5th, Bad milk.

It is quite out of the question that I should, in the compass of a single report, (already too much prolonged), go into detail in the examination of each of these and many other causes, by which the salubrity of New Orleans is impaired. I leave these, then, to where they most properly belong—to the special reports of your vigilant Board of Health, (where they have already attracted much notice), and proceed to consider into what they are resolvable, etc.

I. and II. *Bad air*, etc. The greatest sources of *impurity of air* arise from privies, the offal from kitchens, stables, stores, markets, streets, manufactories, etc.

It is estimated that a population of 130,000 produces annually 5633 tons of night soil, and 43,000 tons of urine: these may be doubled from domestic animals, and from other sources are at least as much more; making the frightful aggregate of about 150,000 tons, (including more than 3000 dead bodies buried in the Cemeteries in *the city limits*), of organic matter submitted to the putrefactive fermentation every year, under our very noses, on an area of 7¼ square miles! It is in vain to say that the night soil is removed to the river, urine sunk into the

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soil, and the offals carried a mile or two in the rear, and bodies buried in vaults: all are long enough exposed to contaminate the atmosphere, and those buried are constantly impairing the purity of the air we breathe, and poisoning the water we daily drink.

III. Bad water is probably more injurious to health than bad air, as it acts far more rapidly when taken into the stomach than when taken into the lungs, for venous absorption admits of no selection; it is taken immediately into the lungs and circulated through the system, and as water is capable of holding in solution a greater quantity of foreign matter than air, it is more concentrated. Professor Hoffman has stated that 1000 gallons of water will dissolve 25 gallons of nitrogen, 6 gallons of oxygen, 1000 gallons of carbonic acid, 50,000 gallons of ammonia — the very gas which escapes so largely from privies and the police filth of every dirty town, carrying with it vegetable and animal matters in a high state of putrescency. Hence it is, that our cisterns, and particularly when near the privies, (*as they usually are!*) are sure to be contaminated thereby, and, indeed, every source of filth in its neighborhood.*

It must be highly gratifying to every intelligent mind to be enabled here to apply the facts derived from the deductions of science in the true explanation of this vitally-important subject. You will agree with me, I am sure, in the belief that the utility of science is to be estimated from its capacity to be applied to the practical purposes of life — advancing our comforts and heightening our enjoyments. We have this beautifully exemplified in the important fact stated in the former part of this report (and other and abundant evidences could be furnished) of the connection of a *still atmosphere with disease, and both with a high dew-point.* This presses on us, with all its force, the necessity of ventilation, and it becomes doubly important when with the *damp, still air* of our backyards, the accumulation of

* Since the delivery of this report, several who heard it have had their attention called to the subject, and consulted me in relation to sources of impurity of the water in their cisterns, from some cause to them unknown. On examination, it was satisfactorily ascertained that in several instances it was most palpably attributable to the vicinage of their privies — in others, to coal containing much sulphur, etc.

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the concentrated filth of a family, including the privy and kitchen offal, in the direct neighborhood of that which is of the last importance to keep pure, viz., the water we drink and use for all domestic wants. Then comes the additionally important fact, derived from science, (mentioned bfore,) that all the noxious gases given off above by these excrementitious remains are absorbed, with destructive rapidity, by this very water! Thus the force and value of the highly satisfactory explanation becomes too apparent to be questioned, and too important to be overlooked.

IV. It is impossible to overlook the effects of intemperance, especially in a warm climate; probably no cause is so effective in undermining the constitution, impairing the *vis-vitæ*, and increasing the liability to disease, as it. There is no disease it does not aggravate; there is no constitution it benefits. The most cursory examination of our cemetery reports of the causes of death will satisfy any professional man, at least, how vast have been the additions to it from an undue indulgence in this vicious habit, and especially of all that large class which gives so baleful a reputation to this climate, I mean the zymotic.* To show the effect of habits upon health in this climate, I have constructed Chart III. to illustrate the different mortalities of males and females. Chart II. (exhibiting the different mortalities between blacks and whites) will show the same to a certain extent, for we find it to be to our *interest to keep our slaves, at least, temperate;* but it was particularly intended to exhibit the different influences of the climate upon the two races.

V. *Bad Milk.*— The mortality in the city of New Orleans of all under five years of age is upwards of 30 per cent., notwithstanding the proverbial kindliness of the climate to our young population, and the mildness of most of the diseases to which they are everywhere subject, such as cholera-infantum, whooping-cough, croup, etc., which, in the northern cities, takes

* To my unprofessional readers I may say, that this class particularly embraces endemic and epidemic diseases, as fevers, cholera, dysentery, diarrhœa, etc.

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off more than 50 per cent., and in NewYork, 55 per cent. of all under that age! This immense mortality has been ascribed, nay, almost demonstrated, to arise, with every reasonable probability, to BAD MILK. That the same cause exists here, to some extent, there is no doubt.

Now, the great and important practical question, to which all else is subsidiary, occurs, CAN ALL THIS BE REMEDIED? Are we suffering from 'medicable ills'? or must a mortality of more than 5½ per cent. be suffered to continue — the city to remain slowly to increase, be stationary, or decline under the great rivalry of other more favored spots? as the rapid improvements of science can almost every where supply the almost unequalled advantages here offered to us by nature. Every intelligent physician will at once join in the impulsive response of every Louisianian, *that there must be remedies*, and that WE MUST APPLY THEM.

Let us see what they are:

The great object is to remove filth of all kinds as soon as possible, before it contaminates the air we breathe and the water we drink and cook with, and use for all domestic purposes. This is done by SEWERS, and there is no city in the world better adapted to them,—where the power to answer their purposes is to be had, as it were, without expense, and where they would do a tythe as much good as they would here. I have no time to go into details now; the demonstration has, I must hope, been made in the Board of Health Report of 1849, together with the plan, drawing, etc. It is not to be doubted that *all the filth* that contaminates the atmosphere, from which we have anything to fear, can thus be made away with, and that speedily:—night-soil, urine, kitchen and street filth, etc., all, indeed, excepting the dead, and the few cemeteries within the limits of the corporation should be immediately closed, and all slaughter-houses, manufactories and extensive stables, removed to the outskirts.

All present privies, below or in the soil, should be immediately *emptied and filled up*, and, in their places, jars or barrels, impermeable to fluids or gases, substituted for them, with proper

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valvular coverings to prevent the escape of gases.* At present, the water is so near the surface, except in and near Levee-street, that no great depth can be excavated but the water rises in it near the surface, and, in rainy seasons, it is subject to overflow; and as we know that night-soil floats on water, *it is always* near the surface, and gives off its noxious gases to contaminate the atmosphere. The members of the Board of Health full well know the trouble our health wardens have every year, during the rainy season, (which occurs at mid-summer,) to remove the constant complaints made to us upon this subject. My impression is, that here is our only remedy,—*no under-ground privies;* and it will recommend itself by its great economy, as well as for its cleanliness and salubrity.

All the present draining-canals about the city should be covered, as the Melpomene, Gormley, Claiborne, and those going to the basins of the draining companies; low lots filled up, and all stagnant water prevented, for in this condition evaporation concentrates its poisons—vegetable infusoriæ, of the class called algæ, as well as fungoid vegetation, are rapidly generated. Many tribes of these vegetable productions appear to die with great rapidity—sometimes in one or two days—and then decompose. Immediately after these, animalcular life appears. Stagnant water is the most favorable to this order of vegetable productions, which, in giving rise to animalcular life, appears to keep pace with the animalised excreta discharged in the house-drainage of towns. Certain degrees of motion in water are unfavorable to the production of algæ and other infusorial plants, the tissues of which are destroyed by brisk motion.† The same round of life and death also takes place in open and shallow reservoirs, and in open cisterns where the water is frequently changed. The eminent German naturalist, Ehrenberg, as one result of very extended observations, established the fact that the existence of visible animalculæ generally indicates the pre-

* Since the delivery of this report, I understand there is a depot for, and a manufacturer of, an apparatus of this kind, in Exchange-alley, near the St. Louis Hotel.

† It has been demonstrated here that the filthy water of our gutters, by brisk motion, in the short space of a half-a-dozen squares, becomes much purified.

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sence of a lower series of invisible animalculæ, descending in magnitude to the smallest monad of the most simple structure—so small, that there is probably no smaller organized creature on which it can feed, while, as is commonly conceived, by arresting organised matter on the very limits of the organic world, and converting it into its own nutriment, it furnishes, in its turn, sustenance to higher orders of animalcular life. Be this as it may, it is very certain that the presence of animalculæ in large numbers indicates the existence of animal and vegetable matter, usually in a state of decomposition, which invariably acts injuriously if the water containing them is used largely for purposes of food, and the effects may be more immediate and marked when the animalculæ are large and numerous.*

Light is also necessary for the production of infusoria and fungoid vegetation, and their formation is prevented by such covering as excludes the light and heat of the sun.

In an alluvion soil like ours, the most perfect paving is that which entirely excludes the possibility of evaporation from the subsoil, and that is by stone blocks united by cement with an angle of inclination to the side gutters, and these to the sewers. Running water from the river or water-works should be in constant use in dry weather in summer, and at such other times as may be ordered by the Board of Health: every street and yard should be cleared *every day, and the filth at once removed.* Health wardens should be appointed for every few squares, whose duty should be to inspect every yard and court *every day*, and every privy weekly or monthly. Trees should be planted in the streets to absorb the noxious gases and give out those which refresh and purify the atmosphere—to moderate the influence of reflected heat from brick walls and houses. It is a law of nature, that the vegetable and animal kingdoms should be, as it were, supplemental the one to the other: animals by breathing and exhaling air, load it with carbonic acid, and render it noxious to themselves; while vegetables absorb the acid gas, and give out oxygen in its stead, and thus supply the animal kingdom with vital air. Then again, whatever elements an animal takes from

* Vide Report of the General Board of Health of England.

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the soil as food, it returns again to the earth in a different form, noxious to itself, but nevertheless furnishing to the vegetable kingdom abundant and wholesome nourishment. It is thus that the organic elements complete their circuit in living beings. Nothing is lost; it is only reproduced in another form. These principles lie at the root of the whole science of agriculture; while they constitute the basis of all economical and sanitary arrangements.*

It has been said by very high authority, Dr. Jarvis, that wherever differences of vitality are found to exist in connection with differences of circumstances, condition, locality, or manner of life, it may be assumed as probable, at least, if not certain, that the former are the consequences of the latter. It is an unquestionable principle, that in the operations of life, as well as in those of dead matter, there is no event without a cause adequate to produce it.

It is equally certain, that in life as well as in death, in similar circumstances and conditions, like causes produce like results. In this law of vital action, there is no uncertainty or invariableness. There is no more caprice or mystery in the ebb or flow of life,—in the maintenance of health, in the cause of sickness, or in the event of death, than in the flow and ebb of the tides, in the movement of the stars, or in the action of gravitation.

It must be admitted as an universal fact, that from any definite amount of vitalizing or destructive influence acting upon living beings, there will follow a definite and corresponding amount of health, strength and life, or of sickness, weakness and death. Between the amount of the cause and the amount of the effect there is an exact relation. No matter how weak or how powerful may be the deteriorating cause, precisely corresponding to that will be the deterioration.' It is thus demonstrable and demonstrated, if we ever expect or wish a healthy city, we must remove the known and well-ascertained causes of its insalubrity, and fortunately for us there is no difficulty about it which cannot be removed or surmounted, by determination, enterprise, science and capital. The health of a place is an indispensable element

* Vide 'Liverpool Health of Towns' Advocate.'

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in its prosperity; nothing can be permanent, without this greatest of blessings; and *whatever the cost*, in the end it will be *cheap*, if this shall be the result. The true wealth of a country consists in its people, and particularly at the productive age; of this age, Louisiana, and particularly New Orleans, has a large proportion: it is not only larger than any portion of the United States, but of any part of the world. The Chart No. III. I now again advert to, as well as all our Cemetery reports, to show that this, too, is the age of death here, and that the period is the autumn, and particularly September.* In a sickly country, not only two or more are constantly sick and withdrawn from the active duties of life, with all its attendant expenses, for every one that dies, (and, indeed, it is estimated, that there are actually twenty cases of sickness to one of death), but more, there is a half sickly valetudinarian existence, which materially trenches upon and consumes valuable time. Besides all this, a sickly country is the main cause of that absenteeism which not only deprives the State of the services of a large portion of her citizens, but abstracts from profitable use and investment at home, millions of her natural resources; retards the advancement of the permanent population of the city; keeps down the value of city property, and prevents all those social and literary enjoyments, and those extensive beneficences which a concentrated healthy population always gives rise to, and enhances and secures.

From the foregoing observations, several important facts are made perfectly clear to the mind of the reporter: First, that a large mortality has existed in this city for a long series of years, and particularly during the periods when the great physical changes have been made; second, that these causes are well known and perfectly removeable; third, with prudent habits, acclimation — if such a thing exists at all now, specifically, of which there is great doubt — is no longer to be dreaded; and it is satisfactorily shown that the yellow fever is departing from among us; and, finally, that with this difficulty removed, we have as fine a climate as any in America; — and that this is

* See also Chart No. I. — the mortuary line.

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proved, not only from the strictest and most extensive meteorological observations, but from the remarkable salubrity enjoyed in the rural districts of the vicinity. To this I need add but one remark,— that, as our duties result from our relations — to the city— to ourselves — to society, (and it is utterly impossible to waive or alienate them,) every consideration of self-interest, of health, enjoyment and prosperity, as well as the warning voice of past pestilences, with the hope and the prospect of securing a comparative stationary condition, on the finest theatre in the world for advancement, while every city is outstripping us in the career of prosperous fortune, urge us to make the improvements required. The single fact — the basis of so many others — is, that capitalists, proverbially timid, will not invest permanently where the mortality is double what it is elsewhere; and you cannot expect an increase of a stationary population of that middle class, mechanics, manufacturers, laborers, and others — the bone and sinew of the land —where there is not as fair an average of health as can elsewhere be procured in our country.

But I must close. I have trespassed too long on your indulgence, but I cannot permit this opportunity to pass without again referring to the peculiar position in which our city is placed, even at the expense of some repetition: in sight, as it were, of the promised land, with the golden fruit ready to be plucked, we wilfully neglect the important subject of our sanitary relations, and thus prevent the fulfilment of our manifest destiny. I have bestowed much trouble on the important facts I have given you, presuming that the elucidation of the truth with regard to our actual condition will be the means of its correction. The time is truly passed in this enlightened age, when assertion will be taken for fact, and that an intelligent people can be long mystified by statements, however high their source. That many — nay, most of us — have been led to entertain erroneous impressions with regard to our sanitary condition, for a long series of years, is unquestionable. We have been so misled by *false* OFFICIAL STATEMENTS, from the highest sources*, which have

* United States census of 1840.

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lulled us into a fatal security, superseded, in some measure, investigation into our actual condition, and thus prevented those corrective measures indispensable to our safety.

This excuse exists no longer; we now *know sufficient of our condition* to be convinced that vast improvements are required; and it would be a poor compliment to pay to an enlightened and wealthy community, as this is, to say that it will hesitate one moment to apply the proper remedy. I see a full guarantee of this promise in the newly-awakened interest this subject is assuming among us. When the curiosity of this public is fully aroused, it will only be satisfied with the truth. This truth is a truly painful one, but it is with as much pride as pleasure I venture the statement, corroborated by the laborious investigation of many years, that the *condition is a removeable one;* and that, by the application of science and skill to enterprise and industry, perseveringly pursued, all can be accomplished that the most sanguine could anticipate, or the most enthusiastic desire. No medical man of reputation would venture the assertion that our condition cannot be vastly ameliorated: the physical aspects of nature are as much, if not more susceptible of improvement for the sanitary condition, than for the enterprises of commerce. In the great competition for supremacy for the western trade, we do not start even in the race unless we are upon a par with them in a sanitary point of view. With all right in this, the game is in our own hands, and it is all comprehended in a few words,—sewerage, and a proper system of policeing. The meteorological tables will show you we have the ideal temperature for the most perfect health and enjoyment, with an almost entire freedom from those extremes which are so injurious to health farther north. It is true we have too much moisture, but then the improvements suggested would, if carried into effect, in a great measure remove this excess. With the adoption of these improvements as a basis, all else will soon follow, for, with health, a permanent population, wealth, taste, refinement will soon develop our delightful climate, and we shall be in the uninterrupted enjoyment of the most pleasant residence in America.

I trust, under your auspices, the public will be invited to take an interest in the important connection of experimental science

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with practical, every-day facts, as shown, for instance, in the elucidation made by the hygrometer of the necessity of ventilation in this climate, in the condition which exists in the *still air* of most of our back yards, and too many of our houses, with what has been shown of its actual condition in a *calm atmosphere* in other situations;—of the connection of this atmosphere with moisture, and of moisture with disease. This has been most satisfactorily shown in Table B, of the hygrometry of the winds, of which various illustrations are given;—of the facility with which the water we drink and use for all culinary purposes becomes contaminated by being placed, by a singular perversion of good taste, in juxtaposition with all the filth of the family! I again call your attention, too, to the interesting statement in the text, first pointed out by a French meteorologist, of the discovery of the actual *means* of daily temperatures when certain plants (enumerated) would flower (and by implication, as it is a law of all plants); and in our country, where it has been shown of the return of great epidemic visitations, on the occurrence of certain meteorological conditions, known antecedent to their outbreak. The same principles applied to the cultivation of our great staples—sugar-cane and cotton—will announce to us, at the periods of their first maturation, (the flowering of the one and the ripening of the other,) the probable produce from each during that season, barring accidents; and, being the results of actual numerical calculation, will prevent that uncertainty, and of course put an end to that speculation, so ruinous to the producer.

These views alone, demonstrate the importance of keeping accurate meteorological records of our condition, not only for health, but for agriculture and commerce. Had the facts which these principles explain been known to our intelligent and enterprising planters, the products of our great staples would long since have been extended all over the State, and been much more certain crops than they now are. They mostly confine themselves, at present, to the very slow and expensive one of empirical experiments, instead of applying principles at once, and boldly dashing forward wherever they are applicable, with all the assurance of success which comes of scientific deduction. An illustration is furnished of this in the very recent cultivation of the cane in the Red river district, and the highlands of our State, where it is cultivated with as much success, if not more, than in the lower river districts to which it had been so long restricted, while it may as well have been cultivated in the others twenty years earlier!

But, gentlemen, there is another fact which claims your very special attention: No country of any importance is so shamefully destitute of records of the past, and particularly of mortuary records, as this.

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You would deem me very extravagant if I should inform you how much I think your interest has been sacrificed by this disgraceful neglect. With the finest climate, soil and position in our country, you are kept *half a century back* of what you would have been had the facts been known, by a proper registry-law of your births, deaths, and marriages, and a meteorological record of this and various parts of your State;—the one thoroughly to record what the climate is, and the other to exhibit the effects of that climate—each bearing upon the other. When the climate or condition of a place is found to be inimical to the health of its inhabitants, it must be attributable to certain causes, which should always lead to an examination. Experimental investigations, under the direction of science, are then employed to find them out, and when so discovered, there is little difficulty in removing them. I will give you a very striking instance: Some years ago, the people of Liverpool were in the habit of boasting of their health,—*as we are in the habit of doing.* The facts developed through the admirable registry-law of England, soon showed that they were suffering under the disastrous mortality of about 1 in 19, or 5.26 per cent.! They soon took the alarm; and, on examination, the cause was found palpably to arise mainly from their extensive, filthy cellar population This was immediately abated, and their salubrity was soon increased to 1 in 27, or 3.70 per cent.! The following pages will show a much larger mortality here: but the heart of every patriot and philanthropist among us may yet throb with delight, when, through a similar appliance, we shall be blessed with similar ameliorations.

From what has been before said, but necessarily alluded to very briefly, it is in the power of sanitary measures to accomplish almost everything we could desire. Those who have most fully investigated this subject, admit that by these means we can procure a state of health where the mortality does not exceed 2 per cent. Then cast your eyes over Table D, and you will see, through our neglect and ignorance—and, of course, the former resulting from the latter—we have actually had a mortality, during more than sixty years, on an average, of nearly twice and a half as much as that! and during some series of years near three and a half times as much! while, in some single years, it has exceeded *four times* as much, or 8.33 per cent.! though there are years in the group, as in 1812, when the mortality was only 2.22 per cent., and in 1827, when it was only 2.25. These are highly important facts to be remembered. They show that the former mortality does not so much belong to our position, AS ITS ABUSE; and it belongs to this intelligent public to determine *whether it shall be continued*, for it is hoped that it has been satisfactorily demonstrated in this report that it is entirely in our power to remove them. The longer continuance of such a state of things is not only ruinous to the best interests of the

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city, but a reproach to the age we live in, if, by any means, they can be remedied.

In taking leave of this most important and interesting topic, I must express the hope I have that you will take a manly share in considering its bearing upon our sanitary state, and our future prosperity, and come with a free and strong help to its accomplishment. There is a mighty incubus that is paralysing the slumbering energies of this great community; and, with the long delusion we have labored under, it requires no ordinary moral courage to express the thorough conviction I entertain, sustained by the facts in this paper, that it arises mainly from the sanitary condition, in defiance of the boastings and taunts of those who draw their facts from their fancies, and construct their opinions upon their wishes. An average mortality of 5.83 per cent., or 1 in 17-70, for the last ten years, is rather a too serious matter for the city fathers to contemplate or set quiet under, while the remedies are in reach, and while they hold the power to apply them. Figures are stubborn things, for they are facts; the imagination quails under their influence; and all reasoning upon such topics without them, or against them, having nothing to rest upon, must fall to the ground.

The glaring fact of our almost stationary condition, in this AGE OF PROGRESS, stares us in the face. Enterprise is abroad. Vigorous competition is putting every place, whose position is far inferior to ours, naturally, ahead of us. The main responsibility rests, first, upon those who represent the city in the councils, to take the initiative, to which they have been repeatedly urged by the Board of Health, to adopt such a system of sanitary reform as will remove the greatest obstacles to our advancement. The future welfare of New Orleans depends upon their enlightened and zealous efforts for the public good. They cannot evade it, if they would. They have an OFFCIAL CONSULTATIVE Board* with whom to divide responsibility, who will cheerfully aid them in their important duties. A *longer postponement is a sacrifice of an important public duty.* Alone, I might shrink from the freedom I have taken with your actions and opinions; but, gentlemen, with the aid and sanction of the intelligent and scientific body I see before me, proper representatives of the enlightened sentiment of the profession in all parts of the State, I feel I am but the organ of your views. Though I will not presume to assert that you endorse all the opinions I have expressed in this report, yet, as the main facts are undeniable, and the deductions from them obvious and fair, I shall at least take it for granted that you so far concur with me that you join in the call for a thorough scrutiny into the facts, and, if they are sustained by the proofs, you will aid in the adoption of suitable measures to remove the causes of disease, and improve and promote the public health.

* Board of Health.

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TABLE A.

AVERAGE MONTHLY HYGROMETRICAL CONDITION OF NEW ORLEANS,

At different periods of the day, for Eight Years.

	Dew-Point, Average,			Hygrometric Scale. Amount of Moisture, Average, (Saturation being 1000),			Elasticity of Vapor, Average,			Weight of Vapor in a cubic foot, in grains, Average,			Degree of Dryness on the Thermometric Scale, Average,		
	AT Sunrise.	AT Midday.	AT 9 P. M.	AT Sunrise	AT Midday	AT 9 P. M.	AT Sunrise.	AT Midday	AT 9 P. M.	AT Sunrise.	AT Midday.	AT 9 P. M.	AT Sunrise.	AT Midday.	AT 9 P. M.
January	0°.97	51°.71	55°.86	.878	.724	.876	.414	.442	.490	4.663	4.889	5.445	4°.05	9°.40	4.07
February	43 .59	50 .86	45 .06	.822	.636	.714	.319	.408	.340	3.658	4.483	3.700	5 .88	13 .66	10.00
March	58 .60	58 .57	56 .08	.863	.678	.731	.511	.542	.492	5.667	5.933	5.425	4 .26	14 .09	7.93
April	59 .46	67 .06	61 .67	.957	.695	.803	.551	.673	.588	6.102	7.453	6.432	2 .54	13 .59	6.83
May	65 .48	66 .50	67 .72	.919	.661	.844	.667	.719	.716	7.212	7.638	7.757	2 .75	13 .08	5.51
June	71 .38	73 .95	73 .16	.937	.718	.852	.827	.868	.853	8.934	9.260	9.158	2 .70	10 .46	4.87
July	76 .24	75 .42	75 .50	.970	.767	.890	.910	.931	.936	10.161	9.564	9.962	1 .56	8 .69	3.73
August	75 .85	75 .59	77 .06	.956	.739	.879	.931	.918	.968	10.039	9.601	10.336	1 .77	9 .82	4.18
September	70 .61	73 .68	73 .66	.909	.746	.792	.798	.867	.868	8.637	9.216	9.46	2 .70	9 .95	7.14
October	60 .39	62 .73	61 .80	.892	.707	.833	.562	.611	.590	6.201	6.488	6.550	3 .91	12 .26	5.95
November	50 .17	54 .27	55 .87	.839	.651	.842	.442	.453	.496	4.881	5.005	5.534	5 .36	12 .56	5.87
December	51 .15	52 .43	51 .97	.914	.719	.856	.389	.420	.429	4.941	4.530	5.374	2 .08	9 .52	4.55
TOTALS, Annual average.	61 .16	63 .56	62 .95	.905	.703	8.26	.610	.654	.647	6.758	7.007	6.678	3 .30	11 .42	5.89

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TABLE B.

HYGROMETRY OF EACH OF THE PRINCIPAL WINDS AT NEW ORLEANS, AND WHEN CALM.

DEGREE OF DRYING POWER.			AMOUNT OF MOISTURE. [Saturation being 1000.]			ELASTICITY OF THE VAPOR.			WEIGHT OF VAPOR IN A CUBIC FOOT, *In grains.*		
1st	N.W.	11 .29	1st	N.W.	.677	1st	N.W.	.468	1st	N.W.	5.136
2d	N.	10 .16	2d	N.	.698	2d	N.	.534	2d	N.	5.819
3d	S.W.	10 .03	3d	S.W.	.727	3d	N.E.	.630	3d	N.E.	6.847
4th	W.	10 .01	4th	W.	.740	4th	W.	.646	4th	W.	6.915
5th	N.E.	9 .28	5th	S.	.761	5th	E.	.646	5th	S.	7.181
6th	E.	8 .84	6th	N.E.	.763	6th	S.W.	.664	6th	E.	7.213
7th	S.	8 .21	7th	E.	.768	7th	S.	.743	7th	S.W.	7.229
8th	S.E.	7 .56	8th	S.E.	.720	8th	S.E.	.759	8th	S.E.	8.030
9th	CALM.	5 .17	9th	CALM.	.929	9th	CALM.	.761	9th	CALM.	8.254

N. B.—To my scientific readers I observe that some few small errors in the above could only have been ascertained when the *results* were arrived at—but at too late a period to re-calculate sixty pages of figures.

TABLE C.

STATEMENT OF THE WINDS IN NEW ORLEANS—BY MONTHS AND SEASONS.

	N.	N.E.	E.	S.E.	S.	S.W	W.	N.W	Calm.	Explanation.
January	4.¼	4.¼	5.	3.¼	3.¼	1.¾	2.	2.¼	0.½	Being on an average of 11 years—1835–'42 and '48–'50.
February	4.¼	3.¼	4.¾	2.¾	3.	2.¼	1.¼	4.	0.¼	
March	4.¼	2.¾	5.¼	3.¼	7.	2.¼	1.¼	2.¼	0.¼	
April	1.¼	2.¾	6.¼	4.¾	6.¾	2.¼	2.¾	2.	0.¼	
May	2.¾	2.¾	5.¼	4.	6.¾	3.¾	1.¼	2.¼	1.	
June	1.¾	1.¾	6.¼	4.¼	4.¾	6.	1.¾	1.¼	1.	
July	1.	2.	5.	5.	6.	4.	3.	1.¼	3.	
August	3.¼	3.¼	4.	3.¼	4.¼	4.	3.¼	1.¾	2.	
September	6.	6.¼	6.¼	1.¾	2.¼	1.¼	1.¾	1.¾	0.¾	
October	6.¼	5.¼	7.	1.¼	1.¾	1.	2.	3.	1.	
November	5.¾	1.	4.¾	3.¼	3.¼	1.	1.	3.¼	0.¼	
December	7.¼	4.¼	5.¼	3.	3.	1.¾	1.¾	1.¾	1.¼	
BY SEASONS.										
Winter	16.	11.¾	15.¼	9.	9.¼	6.	5.	8.¼	2.	Total number of days' wind each season.
Spring	8.¼	8.¼	17.¼	12.	20.¼	8.¾	5.¼	6.¾	1.¾	
Summer	6.¼	7.¼	15.¼	13.	15.¼	14.	8.	4.¾	6.	
Autumn	18.¼	12.¾	18.	6.¼	7.¼	3.¼	4.¾	8.¼	2.¼	
Winter	1st	3d	2d	5th	4th	7th	8th	6th	9th	Relative frequency of each wind during each season.
Spring	5th	6th	2d	3d	1st	4th	8th	7th	9th	
Summer	7th	6th	1st	4th	2d	3d	5th	8th	9th	
Autumn	1st	3d	2d	6th	5th	8th	7th	4th	9th	
BY THE YEAR.										
	3d	5th	1st	4th	2d	6th	8th	7th	9th	Relative frequency of each wind during the year.
	49.	40.	66.¼	40.¾	52.¼	32.¼	23.¼	27.¾	12.¼	

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TABLE D.

Exhibiting the Mortality of the city of New Orleans since 1787, (with exceptions as stated,) with the ratios, the relative proportion dying at the Charity Hospital, and the dates of great physical changes in and about the city.

YEARS EMBRACED.	AVERAGE POPULATION.	AVERAGE MORTALITY.	RATIO 1 to ——	RATIO PER CENT	AVERAGE CHARITY HOSPITAL MORTALITY TO CITY MORTALITY. PER CENT.	DATES OF PHYSICAL ALTERATIONS AND IMPROVEMENTS IN CITY AND NEIGHBORHOOD.
10 years, 1787–'97.	7.020	.488	14.38	6.95	- - -	1785, '91, '99 — Crevasses above, affecting the city. 1796 — Fortifications made around the city, and surrounded by trenches. 1794–'97 — Canal Carondelet dug.
6 years, 1811–'15.	28.741	.989	30.82	3.42	- - -	1811 — Canal Carondelet cleaned out.
1816–'20.	37.985	1.517	29.15	3.95	17.77	1816 — Crevasse. 1817 — First Pavements commenced. 1820 — Wooden side-walks, and curbing removed and replaced with stone. 1817–'20 — Large enclosures of the batture.†
*4 years, omitting 1821. 1821–'25.	44.539	2.085	21.17	4.72	17.60	1824 — Gormley's Canal and Basin dug, about 1824–'28. 1824–'32 — Extensive paving done.
1826–'30.	47.834	1.707	27.68	3.61	21.82	1825–'28 — Melpomene Canal adopted from a natural drain, cleaned out and deepened.
*4 years, omitting 1832. 1831–'35.	58.570	3.503	18.22	5.92	27.11	1831 — Violent storm inundated back part of the city, to Dauphin street. 1832–'35 — The Bank Canal of the 2d municipality dug to the lake — 7 miles. 1832–'34 — Extensive paving.
*4 years, omitting 1837. 1836–'40.	74.262	2.942	25.39	3.96	27.11	1835–'39 — Forest growth cut down in rear of city, first municipality. 1836 — Draining machine on Bayou St. John, drained the section in rear of first municipality. 1837, October — Violent storm inundated the rear of the city. Draining company continued their operations.
1841–'45.	90.000	3.993	23.29	4.48	21.20	1844 — Violent storm inundated the city up to Burgundy street.
1846–'50. N.O. and Lafayette, for the last year.	109.693	7.622	15.33	6.93	24.71	1845–'50 — That section of the rear of the city between the canals Carondelet and Bank, in the rear of the central parts of the city, ditched, drained, and forest growth removed. 1849, May and June — Extensive inundation from Sauve Crevasse, extending as high up as Carondelet street.
TOTALS..			23.19	4.87	22.38	

* The total mortality of these years could not be procured.

† Extract from the report of the Physico-Medical Society on the epidemic yellow fever of 1820, by Drs. Randolph, Davidson and Marshall: 'We would remind the Society of the evident co-existence existing between the enclosure of the batture and the recent unusual consecution of epidemic fevers in this city.

P S I intended to have added a column embracing the average annual immigration from abroad; but the record has not been retained at our customhouse anterior to 1845, since when it has averaged about 30,000 per annum; but very few arriving in the summer and fall months.

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TABLE E.

STATEMENT of the number of FREE and SLAVE POPULATION, as well as the number of Deaths from CHOLERA and other Diseases, in the Parishes of the Western District of Louisiana, as taken by the Assistant Marshals, and returned to the United States Marshal's office, under the Census Act of 23d May, 1850.

PARISHES.	INHABITANTS.		POPULATION W. District	Mortality		TOTAL Cholera,	TOTAL	TOTAL MORTALITY PER CENT.	TOTAL MORTALITY PER CENT.
	FREE.	SLAVES.	TOTAL.	FREE. CHOLERA	SLAVES CHOLERA	SEPARATED.	Mortality	WITHOUT CHOLERA.	INCLUDING CHOLERA.
Carroll	2,346	6,443	8,789	12	110	122	405	3.22	4.61
Madison	1,418	7,350	8,768	9	138	147	417	3.08	4.75
Tensas	902	8,138	9,040	11	131	142	319	1.96	3.52
Concordia	824	6,934	7,758	3	52	55	171	1.50	2.20
Ouachita	2,300	2,708	5,008	..	..	..	117	....	2.33
Morehouse	1,907	2,006	3,913	8	4	12	260	6.34	6.64
Union	4,778	3,425	8,203	7	4	11	716	8.59	8.72
Jackson	3,407	2,243	5,650	8	4	12	313	5.50	5.53
Catahoula	3,616	3,548	7,164	17	30	47	443	5.52	6.18
Franklin	1,681	1,573	3,254	1	3	4	283	8.58	8.67
Caldwell	1,590	1,232	2,822	2	3	5	185	6.38	6.55
Claiborne	4,949	2,522	7,471	2	4	6	612	8.11	8.19
Bossier	2,507	4,788	7,295	1	19	20	368	4.77	5.05
Desoto	3,566	4,450	8,016	9	9	18	496	5.96	6.18
Caddo	3,667	6,468	10,135	..	..	..	330	....	3.25
Natchitoches	6,345	7,627	13,972	4	15	19	848	5.93	6.06
Sabine	3,347	1,167	4,514	..	6	6	538	11.80	11.91
Rapides*	4,000	9,000	13,000	..	..	..	250	1.49	1.92
Avoyelles	4,166	5,161	9,327	4	26	30	392	3.88	4.20
St. Landry	11,384	10,871	22,255	..	..	..	775	3.29	3.48
Calcasieu	2,957	951	3,908	..	..	..	239	....	6.10
Lafayette	3,560	3,183	6,743	..	..	..	283	....	4.19
Vermillion	2,342	1,067	3,409	1	1	2	218	6.33	6.39
St. Martin	5,198	6,468	11,666	..	..	..	422	3.39	3.61
St. Mary	3,911	9,940	13,851	..	..	..	208	1.44	1.50
Bienville	3,644	1,895	5,539	4	2	6	275	5.04	5.15
TOTALS	90,312	121,158	211,470	103	561	664	9,883	5.09	5.22

Classification of the Parishes of the Western District of Louisiana:—

	INCLUDING CHOLERA.	EXCLUDING CHOLERA.	
1. Ratio of mortality in river parishes, per cent. - - - - - -	3.81	2.46	White and Colored.
2. Do. do. in swamp parishes do - - - - - - -	3.52	3.42	
3. Do. do. in upland parishes do. - - - - - -	6.21	6.08	

* These numbers are furnished by a correspondent — not published by the Deputy Marshal.

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TABLE F. . . . . .

STATEMENT of the number of DWELLING HOUSES, FREE and SLAVE POPULATION, as well Eastern District of Louisiana, as taken by the different Assistant Marshals, and

	PARISHES.	Number of Dwellings.	INHABITANTS. FREE.	SLAVES.	Population East. Distric of Louisiana. TOTAL.
	ORLEANS, *First Municipality*— 1st, 2d, and 3d Wards	2154	9,668	1,974	11,642
	4th, 5th, 6th and 7th Wards	3184	23,893	6,136	30,029
	Second Municipality—				
1	1st and 2d Wards	1,558	7,676	1,107	8,783
	3d Ward	1,752	9,072	978	10,050
	4th Ward	861	5,680	840	6,520
	5th, 6th and 7th Wards	2,673	23,519	3,162	26,681
	Third Municipality	3,870	19,890	2,812	22,702
	Right bank of Mississippi river	401	2,029	1,057	3,086
2	JEFFERSON 1st, 2d, and 3d Wards, Lafayette	2,056	10,929	1,371	12,300
	5th Ward, City of Lafayette, and remainder of Parish	1,769	7,801	4,825	12,626
3	Ascension	755	3,486	7,266	10,752
4	Assumption	926	5,197	5,341	10,538
5	East Feliciana	712	4,084	9,512	13,596
6	West Feliciana	599	2,579	10,666	13,245
7	East Baton Rouge	1011	5,627	6,351	11,978
8	West Baton Rouge	392	1,920	4,351	6,271
9	Iberville	610	3,680	8,607	12,287
10	Lafourche Interior	938	5,166	4,368	9,534
11	Livingston	480	2,543	841	3,384
12	Plaquemine	615	2,611	4,779	7,390
13	Point Coupée	760	3,528	7,812	11,340
14	St. Bernard	283	1,479	2,284	3,763
15	St. Charles	191	988	4,132	5,120
16	St. John the Baptist	530	2,778	4,540	7,318
17	St. James	591	3,347	7,751	11,098
18	St. Tammany	786	4,003	2,363	6,366
19	St. Helen	390	2,366	2,196	4,562
20	Terre Bonne	550	3,396	4,331	7,727
21	Washington	406	2,371	1,037	3,408
	TOTALS	31,266	181,306	122,790	304,096

Mortality of the Country Parishes of Louisiana—Eastern District of La.

	Classification of the Parishes.	Including Cholera. WHITES PER CENT.	COLORED PER CENT.	BOTH, PER CENT.	Excluding Cholera. WHITES. PER CENT.	COLORED, PER CENT.	BOTH, PER CENT.
1	Ratio of Mortality of the River Parishes, excluding New Orleans, Lafayette and West Feliciana, and including other river towns	2.69	2.45	2.57	1.03	1.42	1.29
2	Ratio of Mortality of the Swamp Parishes	0.63	1.18	1.05	0.44	0.75	0.60
3	Ratio of Mortality of the Upland Parishes	1.74	1.77	1.75	1.57	1.61	1.57

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. . . . . TABLE F.

...s the number of Deaths from CHOLERA and other Diseases, in the respective Parishes of the ...returned to the United States Marshal's office, under the Census Act of 23d May, 1850.

Mortality Free Inhabitants.			Mortality Slave Inhabitants.			Ratios of Mortality per cent.			
CHOLERA.	OTHER DISEASES.	TOTAL.	CHOLERA.	OTHER DISEASES.	TOTAL.	WHITES. — MORTALITY PER CENT. WITHOUT CHOLERA.	COLORED. — MORTALITY PER CENT. WITHOUT CHOLERA.	TOTAL MORTALITY PER CENT. WITHOUT CHOLERA.	TOTAL MORTALITY PER CENT. INCLUDING CHOLERA.
22	86	108	19	20	39	0.89	1.01	0.91	1.28
63	281	344	30	58	88	1.18	0.94	1.13	1.43
26	146	172	7	24	31	1.90	2.16	1.94	2.31
51	89	140	6	5	11	0 98	0.51	0.93	1.50
2	11	13	...	1	1	0.20	0.12	0.18	0.21
460	1702	2162	7	22	29	7.24	0.70	6.46	8.21
60	302	362	10	71	81	1.52	2.52	1.64	1.95
3	33	36	3	22	25	1.63	2.08	1.78	1.97
52	283	335	8	46	54	2.60	3.36	2.67	3.16
						2.01	1.48	1.96	2.44 *
34	115	149	49	84	133	1.48	1.74	1.58	2.23
3	34	37	81	22	103	0.98	1.11	1.07	1·30
36	41	77	144	59	203	0.79	1.10	0.95	2·66
4	86	90	3	176	179	2.10	1.85	1.93	1·97
13	67	80	18	279	297	2.60	2.62	2.61	2·85
45	101	146	67	98	165	1.79	1.54	1.66	2·60
21	28	49	88	84	172	1.45	1.93	1.78	3·52
14	23	37	143	170	313	0.62	1.97	1.57	2·84
....	...	...	...	9	9	....	0.20	0.10	0·10
5	32	37	5	15	20	1.25	1.78	1.38	1·69
27	56	83	81	83	164	2.14	1.76	1.88	3.34
5	8	13	35	100	135	0.22	1.28	0.95	1.30
...	4	4	9	14	23	0.27	0.61	0.48	0.72
3	12	15	49	61	110	1.21	1.47	1.42	2.44
9	17	26	78	51	129	0.61	1.12	0.93	2.10
5	19	24	89	105	194	0.60	1.15	0.91	1.96
...	58	58	4	41	45	1.45	1.74	1.55	1·62
...	26	26	...	25	25	1.10	1.14	1.12	1.12
2	18	20	7	42	49	0.53	0.97	0.76	0.89
...	23	23	...	6	6	0.97	0.58	0.85	0.85
965	3701	4666	1040	1793	2833	1.05	1.38	1.27	1.90 *

U. S. Marshal's Office,
Eastern District of Louisiana.

New Orleans, April 15, 1850.

WM. P. SCOTT, U. S. M.
By CHAS. A. LABUZAN,
D'y Marshal.

*I have added the per centage of Mortality separately from the cities of New Orleans and Lafayette, as that is done above.

E. H. B

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ARTICLE VI.

ON THE HYDROGRAPHY OF THE MISSISSIPPI RIVER, FOR THE YEAR 1850.*

By Professor CALEB G. FORSHEY.

EACH succeeding year exhibits a large increase of the industrial interests and pecuniary investments made upon the Mississippi alluvion, and the waters of the river, at its ordinary annual elevations, excite an interest, or, more properly, a *terror*, almost unconceived at the earlier epochs of our history. The entire area of Louisiana is 48,972 square miles, of which 21,880 square miles is alluvion. Excluding 8,000 square miles of salt marsh and lake alluvion, there remains nearly 14,000 square miles of land liable to be occasionally or frequently inundated by the river. The attempts to protect by levees all alluvion of the Mississippi, had so far succeeded as to induce a general settlement of lands considered arable, even where the water-marks are several feet high. About two-thirds of the real estate capital in Louisiana lies below high water mark. The dykes which have been raised along the banks of the Mississippi river are totally inadequate to support, for any length of time, the great pressure of water against them. In every respect they are too small. Besides, such is the havoc made upon them by the never-resting steamboat waves, that their servitude is three-fold, in many cases ten-fold what it was in former years. A single boat passing, sending fifty waves of one foot mean height, and at fifteen feet per second, perpendicular to a vertical levee or bank, has an abrasive force equal to ten days' quiet current water, with the mean velocity of the river. The result is, that the inundations of the country, from crevasses in the levee, are most disastrous: and this is particularly true, when, as in 1850, the flood reaches an unusual height.

This year has been as remarkable as its predecessor for the height of the river and the terrible devastations of its overflows.

* The fluctuations of the Mississippi river have such an important bearing on the medical topography of Louisiana, that I deem it proper to publish from year to year such information as I can obtain on the subject. Mr. Forshey has paid more attention to it, perhaps, than any other person in the State, and we are greatly indebted to him for his valuable contributions. As a general remark, it is worth mentioning that, notwithstanding the extensive inundation of 1850, the year was as healthy, if not more so, than usual. Mr. Forshey has expressed a great deal in the diagram and brief text here presented.—EDITOR.

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The water did not remain so long at a high mark, but at several points it was really higher than in 1849; and I think that but for the many local causes, such as sudden and large crevasses, the general river level, at all points below the mouth of the Arkansas, would have been higher than in that year.

It will be seen by the annexed curve of rise and fall of the river, that, at the opening of the year, the banks were full, and the water commenced to press the levees in the bends and low places. Many of the levees were new and very slight, and others were not completed when the flood came. All such yielded readily to the waters. The greatest of all the crevasses, that at Bonnet Carré, occurred on the 29th December, when there was but three feet of water against it. Nothing but the most culpable negligence can be pleaded as apology for this, the most ruinous of all the crevasses. Most other levees were too small and feeble to resist much force, and they gave way in many places.

The consequences were most severely felt in all alluvial Louisiana. No computation has or can be made of the value of the property destroyed by inundations. In a single parish the assessor ascertained that $40,000 dollars' worth of stock had been drowned. Of the whole alluvial area, not less than 13,000 square miles were submerged. To effect this inundation, there was, north of Red River, a series of crevasses and wanting links, amounting to ——— miles of levee. To these must be added the long reach from above Vicksburg to New Carthage, more than twenty-five miles in length. The latter has been closed, as also all the crevasses, leaving only the Vicksburg and New Carthage reach open. Below the mouth of Red River, on the right bank, the aggregate of crevasses was five miles, with a mean depth of 5.3 feet discharge. On the left bank there was only the Bonnet Carré crevasse, of 5,804 feet length, and seven feet mean depth. The total sectional area of crevasses below Red River was 176,892 square feet. This is larger than a mean section of the river, by about 7,000 square feet.

These crevasses seemed to have a local effect upon the river level; that at Bonnet Carré depressing the water at Carrollton, thirty miles below, so that it was seventeen inches below the mark of 1849. It had the effect at the same time of raising the lake Pontchartrain nineteen inches, and also of depositing a bar

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across the river channel, immediately above the crevasse, of near thirty feet height,—proportioned to the depletion at that point,

from the mean velocity found at the surface; and, although the discharge of the year 1850 is here set down from the same com-

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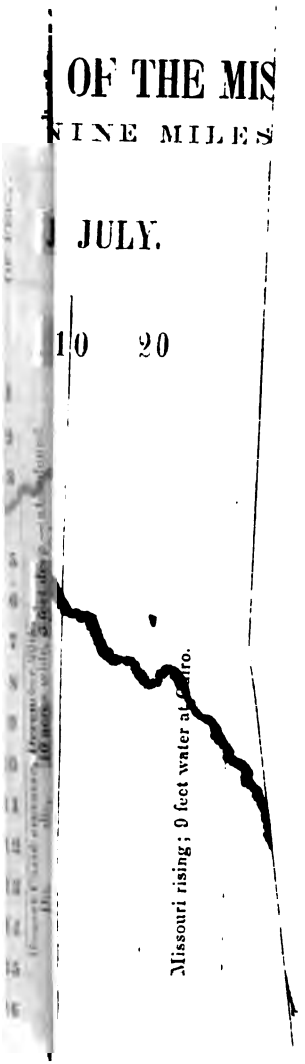
putation and hypothesis, it is done chiefly for comparison with [redacted] years, but partly because I am not yet able to give the



[redacted] pothesis, making little effort to defend ourselves by levees

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it was too late. The levees on the Mississippi river, above us, gave way, and the waters rushed upon us in such floods as to soon overwhelm the whole country. The Mississippi, the Tensas, Washita, Little and Black rivers were high in the fall of 1849, and were kept up and raised higher by the repeated heavy rains which fell in December, January and February, so that when the spring rise came, an overflow was inevitable. By reference to the proper tables, it will be seen that the falls of rain were unusually heavy. This was not only the case in this vicinity and this State, but it was so throughout the West and North-west, as is evidenced by sundry meteorological registers kept in that quarter, and now published by the Departments at Washington. The water in Black River was above the usual level early in February, and continued to rise rapidly, so that by the first of March it was three inches higher than it was at any time in 1849, and rising at the rate of one inch and a half in twenty-four hours. On the 11th of March the water mark of 1844 was covered, and the water continued to rise slowly till April. During this month the water fluctuated, but fell a little, so that, by the fifteenth, the planters who had land out were induced to plant. On the 20th of April it began to rise slowly again, and continued so to do through the month of May, so that by the first day of June the land on the east side of Black River, and all between Tensas and Washita and Little Rivers, was entirely under water. Some of the farms on the west side of Black River, and south of Little River, were protected from the overflow by levees, but the transpiration water damaged the crops. All communication was cut off, and traveling was stopped, except by boats and skiffs. Horses were nuisances, and those little water-crafts were in great demand. Persons who never saw a country inundated can form but an imperfect idea of the distress and destruction attendant upon such unfortunate occasions. Thousands of cattle, hogs, sheep and horses are starved to death or drowned. Cattle will die even where the water is only a few inches deep. Hogs stand the overflow better than any other animals.

It has been contended, by many persons, that inundations are advantageous to our lands, on account of the sedimentary deposit which is spread over them. I cannot say how this may

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have been in preceding overflows, but in this one it was of no advantage, as far as I can ascertain, but, on the contrary, was a disadvantage, as it washed away the soil, especially in fields where it was loose. The water here was impelled by a brisk current all the time; none of it was inactive or stagnant.

The water began to fall on the 9th of June, and fell very rapidly, owing to a subsidence in the upper rivers, and also to a crevasse in the levee in Pointe Coupée, which took place about that time, so that by the 20th it was confined to its proper channels, leaving the soil completely bare of any vegetation, and *apparently* stripped of seeds and deprived of the power of germination. But such was not the case, for, in a few days vegetation sprang up, as it were, by enchantment, and soon the earth was robed in verdure, and all looked gay and smiling again. There was an unusual growth of grass in the woods, affording pasturage equal to any of the famous lawns or meadows of Kentucky, while the fields and road-sides were infested with untold myriads of burrs, which probably were brought here, by the water, from the plantations on the Mississippi river, as but very few of them were here before. The water, at its highest point, was one foot, six and a half inches higher here than it was in 1844, while it was at the same time three feet and nine inches lower than it was in 1828, which is recognised as high water mark, and was, in this last-named year, four feet above the highest land. The water, in the summer and fall of 1839, '46 and '50, was lower than any other years, being in the first-named forty-nine feet six inches, and in the last-named fifty feet below the high-water-mark of 1828.* The water was higher in Turtle Lake than it was in Catahoula Lake, the former being on the east, and the latter on the west side of Black River, the difference amounting to nearly a foot. The water-mark in Catahoula Lake is nine inches lower than that of Black River; this was owing to the water rushing in

* The water in 1828 was 7 feet 2½ inches higher than in 1840;
Do.....do.....12 " 1½.....do.....1841;
Do.....do.....10 " 8½.....do.....1842;
Do.....do..... 5 " 6½.....do.....1844;
Do.....do..... 6 " 9 .....do.....1849;
Do.....do..... 3 " 9 .....do.....1850;
This table is made from measurements kept by my neighbor and friend, Major John R. Liddell.

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from the Mississippi, and also to the low stage of the Red River, into which the waters of the Catahoula Lake were discharged.

Having said thus much on the late overflow, I shall now proceed to give the topography of this country. The town of TRINITY is situated at the junction of three rivers, viz., Little River, Washita, and Tensas, which, by their union, form the Black River. This is at lat. 31°, 30′, 30″, and long. 14°, 45′, 20″, west from Washington, being nearly directly west of Natchez, twenty-eight miles by the mail route, and eighteen miles on an air line.

It is needless to enter into a lengthy or minute description of the face of the country: it is enough to say it is in the swamp; the highest land is that which is immediately on the rivers, or other collections of water; and the farms are opened for from one hundred yards to two miles back from the water courses. There are numerous bayous which bifurcate and inosculate like the bloodvessels of the human body, and into which flows the rain water of ordinary seasons, and the river water in time of the spring floods. Besides these there are numerous blind bayous, called sloughs, [slues] and ponds, which hold water generally all the year. There is a substratum of clay in these ponds and slues which is very tenacious, and holds the water like a tray, but beneath that is a layer of sand, and so on, alternate layers of clay and sand, as far down as any excavations have been made. This is the nature and disposition of the earth. I have made some limited experiments with these ponds, or slues, for the purpose of draining without ditching, by simply digging a hole down through the stratum of clay, thereby allowing the water egress and opportunity to percolate the sand. Where I have tried it, the places keep drier than others, or than they were themselves formerly.

The most of this section of country has been settled since 1836; in fact, up to 1840 there were but few farms opened on these rivers, as it had been so subject to inundation; but since the line of levees has been extended up the Mississippi river, these lands have been proportionally protected and enhanced in value. The people generally are in moderate circumstances, and not able, or willing, to devote much time or labor to levee-

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ing. But since the lands have been opened and become valuable, more attention has been directed to this matter, and within the past twelve months much leveeing has been done, both in Concordia and Catahoula parishes. The population of the country has increased very much since 1840, about which time the first settlement was made in this place, which now has a population of nearly 200. There has been only one epidemic, that spread over the country, proving alarmingly fatal, however, only in a few places; and, with some two or three exceptions, the farms have not suffered much from any sporadic disease Generally speaking, it is as healthy a country as any in the South. Negroes, especially, do well here with ordinary treatment, and they are usually better treated here than in any other portion of the State.

I have taken the trouble to collate a mortuary table for this place and the surrounding country for ten miles, for ten years, or since 1840. There were many difficulties in the way, and some opposition from sources where I least expected it; but so it is — I have made out my table. It is not *exactly* correct, but still it approximates the truth, so that an estimate can be formed. The *pro rata* of deaths to population for the above-named period of ten years, embracing accidents, murders, manslaughters, drowning, children and all, is 29.1 per cent., or 2.91 per annum. A table of the births could not be obtained. The greatest mortality is amongst children; nearly one-half of them die before they are ten years old. More white males die than females, and more negro men than women. Fewer negroes die than whites.

Through the kindness of my neighbor and friend, Col. W. H. Huntington, I am enabled to give a correct meteorological table for the year, except the month of January, which is only partial, being made from memoranda kept by myself. There may be some errors in the tables, but I hope they are not very material.

JANUARY, 1850.

Overcast, or cloudy -	20 days;	Prevailing winds, S. S.W.
Rain - - - - -	11 "	There was a good deal of thunder; the rains were very heavy, and would have measured more than 12 inches.
Frost - - - - -	1 "	
Ice - - - - -	2 "	
Sleet (1st) - - -	1 "	
15		

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FEBRUARY, 1850.

Overcast, or cloudy - 12 days;
Rain - - - - - 8 "
(Amounting to 5 inches 25-100.)
Snow - - - - - 1 "
Sleet - - - - - 1 "
Frost - - - - - 8 "
Ice - - - - - - 5 "

Prevailing winds, N. N.W.
Barometer at sun rise:
Highest, 30.46; Lowest, 29.59. } Mean, 29.90.
Thermometer at sun rise:
Highest, 68° 5'; Lowest. 27° 0. } Mean, 46° 5'.

MARCH, 1850.

Overcast, or cloudy - 12 days;
Rain (3 inches 35-100) - 9 "
Snow (27th) - - 1 "
Sleet - - - - 1 "
Frost (24th) - - - 1 "
Ice - - - - - - 0 "

Winds, variable, E. N.E., S. S.E.

BAROMETER.

Highest.	Morn., 30.17	Mean.	Morn., 29.72
	Noon, 30.23		Noon, 29:91
	Eve., 30.15		Eve., 29.94
Lowest.	Morn., 29.65		
	Noon, 29.64		
	Eve., 29.62		

THERMOMETER.

Highest.	Morn., 74° 6'	Mean.	Morn., 53° 1'
	Noon, 82 0		Noon, 66 0
	Eve., 80 0		Eve., 64 9
Lowest.	Morn., 38 0		
	Noon, 52 0		
	Eve., 41 0		

APRIL, 1850.

Overcast, or cloudy - 11 days;
Rain (9 inches 65-100) - 11 "

Winds, variable.

BAROMETER.

Highest.	Morn., 30.10	Mean.	Morn., 29.93
	Noon, 30.14		Noon, 29.95
	Eve., 30.12		Eve., 29.92
Lowest.	Morn., 29.64		
	Noon, 29.60		
	Eve., 29.60		

THERMOMETER.

Highest.	Morn., 76° 0'	Mean.	Morn., 61° 3'
	Noon, 81 0		Noon, 69 1
	Eve., 80 5		Eve., 66 5
Lowest.	Morn., 46 5		
	Noon, 56 0		
	Eve., 51 5		

MAY, 1850.

Overcast, or cloudy - 15 days;
Rain (5 inches 40-100) - 10 "

Winds from all points.

BAROMETER.

Highest	Morn., 30.12	Mean.	Morn., 29.91
	Noon, 30.16		Noon, 29.86
	Eve., 30.10		Eve., 29.30
Lowest.	Morn., 29.73		
	Noon, 29.74		
	Eve., 29.74		

THERMOMETER.

Highest	Morn., 74° 0'	Mean.	Morn., 65° 5'
	Noon, 84 0		Noon, 76 0
	Eve., 82 0		Eve., 73 5
Lowest.	Morn., 54 0		
	Noon, 56 6		
	Eve., 59 0		

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JUNE, 1850.

Overcast, or cloudy - 20 days; } Prevailing winds, from E., S.E., N.E.
Rain (9 inches 95-100) - 14 " }

BAROMETER.

Highest.	Morn., 30.16	Mean.	Morn., 29.98
	Noon, 30.19		Noon, 29.98
	Eve., 30.15		Eve., 29.98
Lowest.	Morn., 29.80		
	Noon, 29.80		
	Eve., 29.80		

THERMOMETER.

Highest.	Morn., 78° 0′	Mean.	Morn., 73° 8′
	Noon, 89 0		Noon, 79 3
	Eve., 86 0		Eve., 79 4
Lowest.	Morn., 61 0		
	Noon, 73 0		
	Eve., 74 0		

JULY, 1850.

Overcast, or cloudy - 18 days; } Prevailing winds, E., S.E., N.E.
Rain (7 inches) - - 13 " } Much thunder and lightning.

BAROMETER.

Highest.	Morn., 30.09	Mean.	Morn., 29.93
	Noon, 30.13		Noon, 29.98
	Eve., 30.07		Eve., 29.95
Lowest.	Morn., 29.32		
	Noon, 29.83		
	Eve., 29.83		

THERMOMETER.

Highest.	Morn., 85° 0′	Mean.	Morn., 76° 7′
	Noon, 90 0		Noon, 86 8
	Eve, 91 0		Eve., 83 5
Lowest.	Morn, 72 0		
	Noon, 75 0		
	Eve., 78 0		

On closely inspecting the foregoing tables it is observed, that in the month of June the very extreme range of the thermometer, from the coldest morning to the hottest noon, is 29°, and in July it is 18°. But by looking at the tables of the *Mean* average, in June the range was only 6°, and in July 10°. The temperature was uniform, although it was a high one.

AUGUST, 1850.

Overcast, or cloudy - 12 days; } Prevailing winds, E., S.E.
Rain (5 inches 15-100) - 8 " } Much thunder and lightning.

BAROMETER.

Highest.	Morn., 30.13	Mean.	Morn., 29.99
	Noon, 30.17		Noon, 29.97
	Eve., 30.11		Eve., 29.95
Lowest.	Morn., 29.83		
	Noon, 29.83		
	Eve., 29 82		

THERMOMETER.

Highest.	Morn., 81° 0′	Mean.	Morn., 77° 8′
	Noon, 93 0		Noon, 88 5
	Eve., 92 0		Eve., 85 4
Lowest.	Morn., 73 5		
	Noon, 77 0		
	Eve., 74 0		

SEPTEMBER, 1850.

Overcast, or cloudy - 4 days; } Prevailing winds, E., S.E.
Rain (35-100) - - - - 1 " } Dry month.

BAROMETER.

Highest.	Morn., 30.09	Mean.	Morn., 29.97
	Noon, 30.12		Noon, 30.03
	Eve., 30.09		Eve., 29.97
Lowest.	Morn., 29.86		
	Noon, 29.86		
	Eve., 29.85		

THERMOMETER.

Highest.	Morn., 77° 0′	Mean.	Morn., 67° 2′
	Noon, 90 0		Noon, 87 7
	Eve., 87 0		Eve., 76 8
Lowest.	Morn., 60 5		
	Noon, 77 0		
	Eve., 75 0		

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The observations made on the months of June and July can be extended, also, to these two. In August, the extreme range is 19° 5′, while the difference between morning and noon on the *mean* table is 10° 7′, and in September the extreme range is 29° 5′, and on the *mean* table it is 20° 5′. The coldest day of September was the *last* day, so that its influences were extended to the month of October.

OCTOBER, 1850.

Overcast, or cloudy - 13 days;
No rain here during the month.
Frost (first on 20th) - 8 "
Ice - - - - - - 3 "
Little hail, large stones, 24th.

Prevailing winds, E., S.E., N.E.
Some thunder and lightning

BAROMETER.

Highest.	Morn., 30.30	*Mean.*	Morn., 30.02
	Noon, 30.28		Noon, 30.03
	Eve., 30.25		Eve., 29.91
Lowest.	Morn., 29.80		
	Noon, 29.84		
	Eve., 29.81		

THERMOMETER.

Highest.	Morn., 72° 5′	*Mean.*	Morn., 55° 4′
	Noon, 84 5		Noon, 75 9
	Eve., 82 0		Eve., 66 3
Lowest.	Morn., 35 0		
	Noon, 54 0		
	Eve., 53 5		

NOVEMBER, 1850.

Overcast, or cloudy - 10 days;
Rain (1 inch 80-100) - 7 "
Frost - - - - - 10 "
Ice - - - - - - 8 "

Prevailing winds, all points.
Pleasant weather.

BAROMETER.

Highest.	Morn., 30.25	*Mean.*	Morn., 30.10
	Noon, 30.32		Noon, 30.09
	Eve., 30.30		Eve., 30.01
Lowest.	Morn., 29.73		
	Noon, 29.72		
	Eve., 29.73		

THERMOMETER.

Highest.	Morn., 73° 0′	*Mean.*	Morn., 46° 9′
	Noon, 80 0		Noon, 63 5
	Eve., 78 0		Eve., 59 8
Lowest.	Morn., 33 5		
	Noon, 47 0		
	Eve., 47 0		

The range in October is seen to be within a fraction of 50°, and 46° 5′ in November; being as great as is ever met with in any country, while at the same time the range in the *mean* table is not more than in the preceding months.

DECEMBER, 1850.

Overcast, or cloudy - 20 days;
Rain (10 inches 55-100) - 13 "
Frost - - - - - 6 "
Sleet - - - - - 1 "
Snow - - - - - 2 "
Ice - - - - - - 8 "

Winds, variable.

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BAROMETER.				THERMOMETER.			
Highest.	Morn., 30.35	*Mean.*	Morn., 30.04	*Highest.*	Morn., 68° 0′	*Mean.*	Morn., 43° 7′
	Noon, 30 37		Noon, 30.06		Noon. 71 0		Noon, 51 3
	Eve, 30.30		Eve., 30.03		Eve., 79 0		Eve., 51 9
Lowest.	Morn., 29 66			*Lowest.*	Morn., 17 5		
	Noon, 29.72				Noon, 22 5		
	Eve., 29.61				Eve., 29 0		

The observations on the barometer and thermometer were taken three times a day—at *sunrise, noon* and *sunset*—at which times the winds, also, were observed and noted, together with the aspect of the heavens.

During the month of June, while the water was falling, there were frequent and copious showers of rain, so much so that they were compared to water spouts. These showers, I am satisfied, had a very good effect, as they washed off the *débris* and filth which was left by the floods, which would no doubt have caused much sickness.

During the summer months, especially July and August, the thermometric range was generally higher than has been observed in the South for a number of years. Judge H. Bry, of Munroe, has kept registers of the weather since 1811, and he says the weather this year has been warmer than any since that period. This thermal condition was attended in New Orleans by the occurrence of more cases of *coup de soleil* than in any previous year; nor was this high temperature confined to the alluvial portion of the State, but was equally as observable in the high pine hills of this State and of Mississippi, so that it cannot be attributed to *locality*. The people generally observed that the year was very warm; but the mornings were warm as well as the noons, and in some of the days of summer the mercury in the evening was higher than at noon; so that the temperature, though high, was uniform.

The year in this section of country, with the single exception of a transient visitation of the cholera in the month of February, has been as healthy as any year preceding. It has been contended by many, that the seasons accompanying and immediately succeeding overflows are more healthy than others, and the physicians in this vicinity contend that such has been the case this year. The months of September, October and November

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were dry; only 2.10-100 inches of rain fell in three months, but in the whole year 70.45-100 inches, or nearly six feet.

The town of TRINITY has been built up in a few years; the houses are small, and some of them situated very low and near the ground. There are many *slues*, or low places, in the site, into which are thrown all the trash or sweepings, shavings and saw-dust, for the purpose of filling them up. There is a steam saw-mill in active operation in the town, and the barks and refuse of the logs and waste timber, together with hundreds of cart loads of saw-dust are piled in these low places, which were all either partially or entirely submerged at the time of the onset of the cholera, in the month of February, and the water at the same time was rising rapidly.

In the spring of 1849 there were several cases of cholera through the country, many of which proved fatal; one was Dr. Wm. Kelly, who had recently located on Black river. During the winter ensuing, the disease was still hovering around, and very often the steamboats passing the river would land to bury the dead, or put off some unfortunate person in the last stages of cholera.

A gloom was over the whole country, produced both by the apprehension of this terrible scourge and the threatening overflow.

THE CHOLERA IN TRINITY.

The first case was in the person of Mr. P. Hoovey, a young man, aged about twenty-five, who has lived for several years in the vicinity. He was attacked suddenly, on the night of the 9th of February, and immediately sent for Dr. R. Quail, but he had about a dozen watery alvine discharges before the doctor saw him, so that he seemed to be fast sinking into the collapsed stage, when port wine with æther, camphor and opium, were given. This, although it relieved him greatly, did not materially check the dejections, so the aid of starch and laudanum enemata was invoked, by which longer intervals of rest were obtained, and at the time cal. gr. v., opium gr. 1, tannin grs. ij., repeated every two hours, and continued for twelve hours without any apparent benefit. Then, powders composed of plumbi sub-acet. grs. x., pulv. nuc. vomicæ grs. v., were given and repeated at the expi-

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ration of an hour, which promptly checked the discharges, and procured perfect ease and quiet. He remained without any dejection for two days, when oil was administered, and he speedily recovered.

Case 2.—On the 11th February, in the afternoon, the son of J. Wiester, aged three years, was attacked in the room adjoining Mr. Hoovey's. This was a delicate child, who had for several months labored under a chronic diarrhœa. The same medical attendant was immediately called in, and sub-acetate of lead and opium were freely used, both by the mouth and eneata; but the little patient soon sank, without any check being made upon the malady.

Case 3.—On the 12th February, in the afternoon, the daughter of the same, aged five years, was attacked, sunk rapidly, and died about midnight. About an hour before she died, there being intense capillary congestion, together with congestion of the lungs and brain, she was placed in a cold bath, with cold affusion to the head; on removing her from the bath, an alum enema was administered, and then she was closely wrapped in blankets; she dropped to sleep and slept for an hour, during which time reaction seemed to be very much restored; she awoke, asked for water, of which she drank freely. While she was up in the bed she had a discharge, and died in five minutes.

Case 4.—John Wiester, the father of the two above-named children, was taken himself on the evening of the 13th February. He was dissipated in his habits, and had had a chronic diarrhœa for more than a year. Dr. D. P. Calhoun and his brother were called in to this case, and administered various remedies. About 8 o'clock, P.M., Dr. Quail was also called in, at which time the patient was in a congested condition, and the discharges unchecked. He was bled about four ounces, at the suggestion of Dr. Quail, which seemed to partially relieve that congested condition, but he sank in the course of a few hours.

Case 5.—On the 14th February, Mrs. Cowan, living in the

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same yard, was attacked. Drs. Emerson and Quail attended her. This case was a mild one, attended to early, and yielded readily to some simple remedies.

Case 6.—Mrs. S. Barland was severely attacked on the morning of the 16th, at 4 o'clock, and by 6 A.M. had half a dozen large, watery evacuations. The family gave her capsicum, camphor and brandy, which checked the discharges; but she still suffered with much enteric pain. Dr. Quail was sent for, who found her in a very doubtful condition, and much cramped. He gave her cal. grs. xx., nux. vomica grs. x., and repeated it in one hour, also applying mustard cataplasms to the abdomen. After having taken the second dose half an hour, she fell into a calm sleep, which lasted till in the evening; a short time after awaking, she had a green, thick discharge, followed by a return of the cramps and pains of the abdomen, but which yielded to a mild sedative opiate draught. From this time she convalesced rapidly.

Case 7.—J. A. Tiffee was attacked on the 20th February, and was also attended by Dr. Quail, who gave him first calomel and opium, then sub-acet. lead and opium, and sub-acet. lead and pulv. nuc. vom. in small doses. all of which did not materially check the discharges. The patient is a stout, athletic man, about forty years of age, of regular habits. On the next day, finding the case was assuming a more grave character, sub-acetate of lead, grs. xx., and pulv. nuc. vom. grs. vi., repeated *pro re nata*, and wine whey used as a drink. This procured a cessation of the discharges, together with a general improvement, and next day calomel grs. ij., tannin. grs. ij., pulv. Dov. grs. v., repeated every three hours. He speedily recovered.

Case 8.—On the morning of the 23d February, Mr. Alfred S. Barr was attacked, about four o'clock. Mr. Barr was a stout man, bilious temperament, aged about 38, but had long been much troubled with dyspepsia and diarrhœa, although his habits were very regular. He was boarding at the time in the boarding house of Mr. Snyder, but slept in an office in the back yard,

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adjoining his own store. He was very much alarmed when he was first taken, as there was quite a panic in the place, and he despaired of ever getting well. Besides, as before stated, the water was fast encroaching on the town, the weather was very changeable at the time, and mostly overcast, with rain on that very day. Immediately on the attack, the Drs. Calhoun were called in, who employed calomel, opium, camphor, tannin, together with other things. He was bled about a pint, but still the disease progressed, and the patient sank rapidly. About six o'clock, A. M., Dr. Quail was also called in, together with Dr. Dearing. It was advised by Dr. Q. to resort to the use of the alum enemata, as the discharges were unchecked, but it was finally agreed to await the action of the medicines which he had already taken. Here two hours were lost awaiting the action of these medicines, and finally the enemata were resorted to, but not until he was in an extremely congested condition, and in a state of collapse. Saturated solutions of alum were now injected, and the acetate of lead given internally, but he continued to sink. In order to relieve the capillary congestion, he was stripped, and about eight buckets of cold water were poured on him. This relieved him very much, and he was temporarily revived. At this time (2 P. M.), Dr. Bradstreet arrived from the country, who had been sent for in the morning, and the discrepancy of opinion being irksome, while, at the same time, Dr. Dearing was taken unwell, it was agreed that Dr. B. and Dr. Quail should have immediate charge of the case, and the others be called in if thought necessary. The following is a brief description of the then condition of the patient:—

Much mental excitement, anxiety and despondency; excessive thirst and irritability of stomach, vomiting, and frequent watery discharges. Great tenderness of epigastrium upon pressure, for which he had already been freely blistered. Pulse feeble, but very much excited, which, it was thought, arose from the multiplicity of remedies employed. Dr. Bradstreet used then, to arrest the discharges, an enema composed as follows, and which I have employed myself, very successfully, in arresting the hypercatharsis of cholera and cholera-morbus, diarrhœa and dysentery:—

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℞.—Vitel ovi j.; pulv. gum camph. grs. xx.; sulph. quin. grs. xx.; aqua font. ℥iij.:

Mix and inject, repeating it if necessary. This checked the frequency and copiousness of the discharges.

To allay the gastric irritability, he used an effervescing draught of carb. ammon., soda and tart. acid; this also temporarily relieved the thirst. The patient being now composed, the physicians retired for refreshment, it being then half-past three, P. M., leaving a gentleman in attendance. While they were absent, he was allowed to drink a little brandy. When the medical attendants returned, the patient had cramps, colliquative sweat, delirium, together with a return of all the other symptoms, and he was fast sinking. Cups were applied to the spine, followed by sinapisms, which were also applied to his extremities; but he sank rapidly, and died the same evening.

I have thus enlarged on the case of Mr. Barr, because he was one of the best and most useful men in the whole country, and was respected and esteemed by everybody. Every possible effort was made to save him, and all that the best medical advisers could do was most readily and zealously performed; but our friend has gone, and it is feared his place will long remain unoccupied.

Case 9.—James Hagan, an Irishman of irregular habits, a hard drinker, and for a long time troubled with intestinal derangement, was also attacked on the 23d; was under the care of Dr. D. P. Calhoun, and lived only two hours.

Case 10.—Same day Mr. Reuben T. Toms, aged twenty-seven years, small frame, light complexion, troubled at intervals with disease of the lungs, was taken, and attended by Dr. Emerson; he also boarded and lodged in Mr. Snyder's tavern.

Case 11.—Mrs. Toms was attacked the same day mildly, and recovered by the use of some light medicines. She was also attended by Dr. Emerson.

Case 12.—On the morning of the 24th, Ben, a griffe negro belonging to Mr. Snyder, was taken severely, and first placed

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under the care of Dr. Bradstreet, who used the enemata of egg, camphor and quinine, and the cinnamon draught,* but they failed. Afterwards he was placed under care of Dr. Emerson, and finally Dr. Quail was called in, but the patient died that evening at three o'clock.

Cases 13 and 14.—On the night of the 25th, Dr. Quail and wife were attacked, but in a mild form, and the disease soon yielded to the action of sub-acetate of lead and opium.

From this time on till the 1st of March, cases occurred of a mild nature, which readily yielded to sugar of lead and opium, followed by small doses of calomel or some laxative. Nearly every person in Trinity was troubled more or less with the disease, so that these fourteen cases are not the only ones which occurred.

On the night of the 1st of March, Dr. Quail himself was again attacked, and, having no opportunity of sending for medical assistance, as the water was so high as to cut off communication, only by a boat, he was compelled to prescribe for himself. The attack was a very severe one, and, in order to check it, he took, during the night, sub-acetate of lead, grs. xx., tinc. opii, ƒ℥iv., at four doses; also two injections of the same, which controlled the disease till daylight, when Drs. Emerson and Dearing came to his relief, under whose kind treatment and skilful management he recovered in a few days.

Mr. Wm. Snyder, becoming alarmed, took his family (24th February), and went to Natchez, but died soon after reaching that place. There were many light cases of the disease in and about Trinity, but above I have briefly given all the cases of any importance, or which died. At the time there were many exaggerated reports about the cholera here, which spread all over the country, and were extensively published in the newspapers. At that time there were more people in the place than now, or say about two hundred; out of these

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* ℞ — Cort. cinnam. contus., ʒ ij.; cloves, ʒ ij.; tannin, ʒ ij.; tinct. opii., ʒ ij.; Ess. pip. menth., ʒ iv.; gum kino, ʒ j.; pulv. cayenne, ʒ j.; brandy, (best) ½ gallon; —

Sweeten, and give to an adult a table-spoonful every 15 minutes, or less often, as the case requires. This is a favorite recipe with Dr. Bradstreet, who recommends it very highly.

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eight died, most of whom, it will be observed, had been previously debilitated by some other disease; and only a few cases were in any wise difficult to manage, where the constitution of the patient was good.

There were cases, also, in the country around, as in the families of old Mr. Rowton and his son. In the first-named, old Mr. R. was almost daily in Trinity; he was seized with the disease, and died suddenly on the 23d February. He was a large, corpulent man, of general good health and regular habits. He and his family were at the time in the act of removing from the overflowed district to the pine-hills, some twenty-five miles west of Trinity, so they took the corpse with them while other members of the family were laboring under the disease, and his wife, an adult daughter and a negro woman, all died of it on their way to the hills, or immediately on reaching the hills. The Rev. T. A. Rowton, a son of the first-named, had the disease in his family. There had been constant visiting and communication between the two families, but none of the latter died.

Dr. J. S. Bradstreet was attacked on the 27th February, but soon recovered by the use of some ordinary remedies.

On the 2d of March a case of cholera, in the person of Miss C. J., was placed under my care. Her father had been in Trinity during the height of the disease, and saw several of the cases, and assisted in some attentions to the sick and dead. He came home, and had some slight symptoms, but nothing requiring medicine. Miss J. was taken about 9 A. M., and I did not see her till 4 P. M., at which time she was in the collapse, her features shrunk and unnatural, skin cold, clammy and congested, voice altered, and suffering with cramps. The family had used such remedies as are common, viz., camphor, laudanum, pepper, cataplasms, frictions, etc. She was a delicate girl, and had been laboring under both thoracic and abdominal derangement for more than a year, which caused the family to neglect the case in the onset. I gave calomel, opium and sub-acetate of lead, and bled her to about ℥v., and continued the frictions with dry mustard. But the case proved fatal after fifteen hours' duration. There were other cases during the week in the family, but being

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of a mild nature, and taken under treatment early, readily yielded. There were other cases under my charge, to be noticed hereafter.

The cholera made its appearance on the plantation of Messrs. Stacy & Sparrow, on the Brushy Bayou, ten miles east of Trinity, about the 11th of March, and also on a place of Gen. Ed. Sparrow's, about five miles east of this, both in the parish of Concordia, and both at the time mostly overflowed. These fell under the care of Dr. John W. Calhoun, who lived close by. The Doctor has already made a brief report of these cases in the '*Charleston Medical Journal*,' for September, 1850, which I have taken the liberty to insert here:—

'On the 12th of March the cholera made its appearance on the plantation of General Sparrow. I was sent for on the day following. On my arrival, I found one negro dead, and two others in the stage of collapse. Having read innumerable modes of treatment, recommended by the physicians in Europe and in the United States, I was at a loss which of them to adopt. I finally, however, decided upon a trial of the salt and mustard emetic, but no beneficial effects followed. I then gave phosphorus, in large doses, with the same results. One of the two patients died in ten hours; in the other, by the use of hot applications externally, and brandy and cayenne-pepper internally, a partial reäction took place, but it was of short duration, the patient becoming comatose, and dying in forty-eight hours. The plan of treatment pursued by the overseer, previous to my seeing them, was that recommended by Dr. S. A. Cartwright, of New Orleans, but it must be confessed that it was not resorted to until they were rapidly approaching the algid stage. There were seventy-four cases on the plantation, out of which number four terminated fatally.

'Diarrhœa almost invariably preceded the graver symptoms, lasting generally from four to twelve hours, when the rice-water discharges, cramps, etc., set in. In a few of the cases, the cramps of the extremities, abdominal pains, etc., were the first symptoms noted, a collapse being established in a remarkably short time, not exceeding an hour.

'To subdue morbid action and restore healthy secretion, I prescribed (after the first two cases) calomel, grs. x., gum-camphor and tannin, each grs. v., every half-hour or hour, as the urgency of the symptoms demanded, until the diarrhœa was checked, and the secretions restored to a healthy state. In combination with the above substances, I occasionally prescribed opium. I must not omit to mention that, in some cases, the irritability of the stomach was so great, the above pre-

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scription could not be retained. In these I gave calomel alone, internally, restrained the discharges by stringent injections, and applied sinapisms to the abdomen and extremities. After the formidable symptoms subsided, no further treatment was necessary, the patients entering promptly into convalescence.

'By pursuing the plan of treatment laid down, in the premonitory stage, I did not lose a single patient; the four that died were not reported until they were collapsed, or nearly so.

'On another plantation, owned by the same gentleman, forty cases occurred, of which number two died: of the two that died, one was in the algid stage when I saw him.

'The weather, during the prevalence of the epidemic, was very cool and damp, with the wind from the north-east. The negroes were very much crowded, and badly housed. With the hope of arresting the malady, they were moved into 'camps' in the woods, as soon as they could be erected; but the change failed to check it, (although in other cases the removal has been followed by success); perhaps on account of the disease being latent, at the time, in their systems.'

I would simply correct this by stating that the number of cases on the first-named place was *fifty*, and the deaths *ten*, and on the second place the number of cases was *ten*, and the deaths *two*, as he states, viz., a woman and child.

On the 20th March, the disease appeared in the family of Mr. Trunzler, (consisting of eight persons), first in the person of his eldest son, aged 25, who had been on the above-named place of Gen. Sparrow, helping to attend some of the cases. Dr. Quail was called to attend this family, and finding the case approaching the algid condition, he employed the remedies which had been previously employed by him for cholera, but without the beneficial results. He then used port wine ʒfiij; pulv. prus. fer., grs. xx., repeated every hour till four doses had been taken, when he was relieved, the discharges checked, and in the course of eight days he was well. The whole family were attacked, some of them very severely, but all recovered. The father being very old, relapsed, or rather had a second attack, subsequently, on the 6th April, and died the same day, before medical aid could be procured. The reader will bear in mind that the country was all under water, and that there was a great fall of snow, sleet and rain, on the 27th March.

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Mr. James Crossgrove died of cholera on the 29th, and a little daughter of Mr. John Kennedy's on the 30th; the family of Mr. Kennedy being at Mr. Crossgrove's during his illness. These two cases, I am told, were treated by a young German homœopathist brought out from Natchez. What he gave, I am unable to say.

Mr. Kennedy and his son, a lad of some ten years, were both attacked on the morning of the 1st April, and I was called to attend them. Mr. Kennedy, although severely attacked, was soon relieved. The boy was very sick, having frequent discharges, and the stomach ejecting everything. My main reliance was the injections of sugar of lead, which checked the discharges; the stomach then slowly recovered its quiet, calomel and morphia were retained, and by noon of the 2d I left him with medicines and prescriptions, and he soon was well. At this time there were many rumors of the ravages of the disease in New Orleans. On the 8th of April, a negro man belonging to Charles Gibson was attacked. He had, on the day preceding, dug the grave for old Mr. Trunzler, and assisted in burying him, and also in some attentions on the sick. From this time on till the 20th, all of Gibson's family were attacked with the disease, but none of the cases proved fatal. Mr. W. M. Barfield, wife and child, were living with Mr. Gibson at the time, all of whom were sick. In the case of Barfield, the port wine and prus. iron was the only prescription which did any good. These were also under the care of Dr. Quail.

Dr. Quail informs me that he frequently used, with marked benefit, *alum whey* as a drink, made in the following manner:—

℞.—Alum ℥ij.; aq. fervent. ℥j.—ɱ.

To this add Oij. boiling sweet milk, and then strain it for use. Give from one to two ounces every fifteen or thirty minutes, or *pro re nata*. This drink, with alum or sugar-lead injections, will, in the great majority of cases, arrest the vomiting and purging. In some cases, patients treated in this way have, after being convalescent, discharged hard, curdled lumps or plugs, half an inch thick, and three or four inches long.

There were some cases of cholera on the plantations on Little river, but I have no minute accounts of them. Some

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deaths occurred amongst the negroes on Mr. Glenn's place, in 1849, and a child, aged ten, of Captain Spencer, died in March, 1850.

On the same river there have been many cases of measles during the two past years, and also cases of dengue; but they occurred in the practice of Drs. Alexander and Fennimore, from whom I have received no data to be embodied in this report.

Measles appeared in the family of Mr. J.W. Pallen, from the 9th of February up to the 28th, of a marked type, though not malignant. At the time, there were eight white children in the family, who all had the disease, together with some adults, and several negro children, none of which died. The disease was contracted from some emigrants on board of a steamboat passing up Black river. There were cases also in Trinity, mostly in the family of Captain John M. Philips, none of which proved immediately fatal, although one, a negro woman, died from dropsy, as a *sequæla* of measles, accompanied with catamenial derangement, at the critical period of life. These cases occurred during the height of the cholera. Measles also prevailed in the family of John Sojourner;—himself and his three children, and a negro boy, had it severely, but all recovered. Mr. S. had dropsy after the measles, and the whole family suffered afterwards with boils.

Scarlatina made its appearance in the family of Dr. H. Hanna, on Black river, there being six cases of it there, and two cases at Mrs. Parham's—one an adult; also, two at F. Wilson's; all of which were cured. Acetate of lead was used as a wash in all of the cases.

WHOOPING COUGH.

This disease has prevailed quite extensively during the year, throughout the country. It was both in Alexandria and Natchez; made its way to Harrisonburg, on the Washita; transmitted thence to the farm of Dr. Alexander, on Little river, seven miles from here, in whose family it proved very troublesome, and he lost one of his children. Thence it was transmitted to Colonel Huntington's, on Tensas, three miles from here, where

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about thirty cases were successfully treated; thence across the river to the plantation of R. D. Percy, in the month of August, where it proved a very complicated and serious malady, for, from the time of its first appearance up to the cessation, about the 20th of October, thirteen negro children died of it. All of Mr. P.'s children had it, but all recovered. Advice and prescriptions were obtained from various sources, but Drs. Dearing and Bradstreet were the medical attendants, and furnish the following outlines of the malady: The cough was not in all cases the strong, loud, stridulous cough, but in many of them resembled that of influenza,—so much so, that there was a doubt' for a while whether it was pertussis. The fever was not uniform; some needed the lancet and cups, while others were in that low, typhoid, languid condition contra-indicating venesection. Some, in fact the majority of them, suffered much gastric and enteric derangement, and the liver was materially deranged. There was much engorgement and oppression of the lungs, attended with a great accumulation and discharge of mucus. The alvine discharges were of a greenish, viscid nature, and copious. In some the palate was elongated; in others, the fauces and glottis were pale, and seemed to be tight; and in all such the disease was promply fatal. In some, the mouth, tongue and fauces were covered with aphthæ, the same patients being troubled with a diarrhœa, thereby indicating the persistence of the aphthous condition throughout the alimentary tube. These cases mostly died. The deaths occurred on the seventh and ninth days; those which survived the last-named period recovered.

The treatment was various and multiform. In some, venesection was manifestly injurious; and in a few cases the temporal artery was opened;—and such cases died. Baths were injurious; they were carefully used on the white children, and their effects cautiously observed;—they were abandoned. Cups to the upper spine, when there was much pulmonic engorgement, proved serviceable; so also did sinapisms. Blisters were used, but the benefits were not appreciable. Calomel was tried in a few cases, and was manifestly injurious. A domestic remedy, composed of honey, linseed oil and whiskey, was used,

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but was not successful. Sucking children fared better than older ones, and the syrup of ipecac was very beneficial to them. The hive-syrup was used on the white children successfully. The more delicate and feeble patients fared the best; fewer of them died. Dr. B. thinks the best recipe that was used was a combination in the proper doses of the carb. potas., cochineal and belladonna. This seemed to answer the indications, and relieve the patients. The frequency and severity of the cough was relieved by pulverised alum administered in syrup. The *post-mortem* appearances were, an injected condition of the tunics of the brain, with affusion of serum in the ventricles; engorgement and hepatization of the lungs, with affusion of serum in the pleural sacs; and in one, aged seven, pleural adhesions; probably from previous disease; the abdominal viscera healthy. There were only two *post-obits*.

It was thought that the extreme obstinacy of the disease arose from the old and decayed houses, which had been partly under water during the overflow, (at which time they were abandoned temporarily,) so they were removed to the gin-house, and some other buildings, late in September. The cases improved, and only a few deaths occurred afterwards. Pertussis was very prevalent in several families below here, on Black river; some of the cases were very obstinate, but none of them fatal.

During the summer and fall there have been fewer cases of the common endemic fevers than at any time since the country has been settled. It has been often said that the season following an overflow is a healthy one. All the physicians say they have had but little to do, and have had less need for quinine than any year for the last ten. There have been an unusual number of abscesses and boils since the subsidence of the water. I have enquired of my *confrères* the cause of this, and the opinions are various. One charges it to the late overflow, another to the want of vegetation, and another to the dry fall, by which the blood has become thickened and enriched. Some of these cases are very singular, and I am tempted to report them.

Mrs. C. was attacked with fever on 10th July, and was, during her illness, delivered of a healthy female child. She remained in the swamp during the overflow. Furunculi appeared on the

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legs, hips and sacrum, which annoyed her excessively, and a very large one in the popliteal region, which confined her for two months to her bed, and discharged immense quantities of pus. After suppuration ceased, it was quite a month before she could walk without crutches. There was some contraction of the gastrocnemii muscles, but it has gradually disappeared.

CASE.—G. S., a resident of Little river, but had removed during the high water to the pine hills, aged 68, but of strong constitution and good health. In the last week of August, two whitlows appeared simultaneously, one on the right thumb, the other on the last joint of the left little finger. He had the one on the thumb opened, but refused the other. He suffered so much from this, (the thumb healed rapidly), that he could not sleep, and on the night of the 1st September he was frequently out on the gallery, and as there was quite a change in the weather, and the night very cold, he contracted pleuro-pneumonia. For this he was freely bled on the 3d, cupped and blistered, and put on the use of antimony, etc. The little finger continued extremely painful, to which many applications were made. It opened itself, and suppurated freely, and the inflammation, followed by suppuration, extended up on the back of the hand to the wrist. The whole arm, to the axilla, was red and very tender. This was synchronous with the pneumonia, and continued even after it was cured. Pustules appeared in the scalp, and at different places on his body; but there was also suddenly, 15th September, an enlargement of the scrotum, but no pain except when violently pressed, or very suddenly moved. There was effusion in the epididymis of the right testicle, which finally resulted in suppuration, was opened, and discharged freely, then cured without in the least impairing the testicle.

J. Murray, aged 33, large frame, bilious temperament, much debilitated from disease; large spleen and irregular habits, morbid appetite, and constant smoker of the pipe; has lived in the swamp since 1839, and moved to the pine hills during the high water. Out there he had an immense psoas abscess on the right side, which pointed externally, and when opened, discharged an immense quantity of very offensive pus for several days. This

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was immediately caused by straining at lifting a heavy piece of timber; he got well. In October he got his feet wet, which was the cause of inflammation of the salivary and maxillary glands, together with temporary glossitis and tonsilitis. Various washes and gurgles were used, but without arresting the disease. Suppuration took place, and an opening made in the right cheek, in spite of all efforts to prevent it, and immense quantities were discharged. The suppuration extended to the orbit, the pus pressed upon the optic nerve, and the motion of the eye, together with vision, was destroyed.

1st December. He had a morbid appetite, which he indulged sometimes to his serious injury, bringing on diarrhœa, bordering on cholera-morbus. Suppuration continued, the pus passing through the lachrymal tube into the nose, and also through the opening in the cheek, which was just opposite to the first molar teeth, but the skin was not abraded at any other point. He was now warned of the danger of the inflammation extending through the orbit, and by the optic nerve, and other direct channels, to the brain; but he was still reckless, and would not stint himself in eating—would not allow any setons to be introduced, and only used a little medicine occasionally. He suffered much frontal pain—had fevers nearly every night, at which time he was delirious, and slept but little. On the 12th December he had a severe attack of cholera-morbus, brought on by eating fresh pork, and after that, his appetite nearly entirely failed him, so that he ate little of anything. He declined rapidly from this time, and on the night of the 19th the fever was high, attended with much delirium, subsultus, restlessness, and on attempting to walk to the fire-place he fell heavily on the floor. For several days he had complained of being cold and chilly, requiring warm applications to his feet while in bed.

On the morning of the 20th, he was, at times, and frequently, speaking incoherently, and incessantly throwing off the cover and requesting to be led to the fire, complaining of the cold. He was, while up, constantly asking for his pipe, being an inveterate smoker, but in attempting to smoke, he would fail to get the pipe to his mouth; he would separate the pipe and stem, and then could never reünite them, nor could he put the fire in his pipe.

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This, though a distressing, at the same time, was a ludicrous scene. During the day, this involuntary motion gradually gave way to a loss of motion altogether on the left side, and by night there was total hemiplegia of that side, accompanied with retention of urine and fœces, but constant jactitation of the right side: the motions of the right limbs were strong and vigorous, and the grasp of the hand quite so.

21st. Same condition continues as above, rendered still more grave by complete coma and stertor, and to wardsnight the gradual loss of the use of the other side. 22d. Had a hot fever for some two hours, followed by a copious sweat. He gradually sunk, and died at 2 P. M., on the 23d January.

He had been sick so much, and had so frequently been, as it were, in the very jaws of death, and yet survived, that it was strictly charged upon his family to have his body opened when he died, let it be when or how it might.

On the twenty-fourth, being twenty-four hours after death, I made the *post obit* in presence of some of the neighbors, as I could not procure the assistance of any physician. The body was stiff, very much emaciated, and a blue streak on both sides of the abdomen, as wide as the hand, extending from the ribs to the ilia.

Head.—Bloodvessels of pia mater injected with thick dark blood. No purulent deposit on or between meninges. Cortical substance darker than natural. On attempting to remove the encephalon it nearly fell to pieces, and the entire mass was of the consistence of butter. There was but little fluid in the ventricles. The disorganization was more marked in the right hemisphere, and especially in the anterior lobe. There was a collection of pus on the right thalamus. The brain was so soft and so easily broken down, that it was impossible to examine it with anatomic accuracy; on attempting to divide, or lay open any portion, the medulary substance adhered to the knife, and was smeared about on whatever touched it. The cerebellum, corpora quadrigemina, and as far as the spinal prolongation could be examined, were all found completely softened; thereby fully showing the cause of those symptoms denoting confirmed cerebral disease. Deeming it more politic to let the *eye* alone,

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so as not to excite a dislike towards *post-mortem* examinations, I did not inspect it. It had not shrunk, or changed color, nor had the iris lost its sensibility, or contractility during life.

Thorax.—Two ounces or more of dingy, bloody serum in right pleura, and about four ounces in the left, with purulent flocculi floating in it. Right lung attached to the ribs by numerous strong bands, which, on the dorsal aspect, amounted to nearly a complete adhesion throughout. There was an injected and partially hepatised condition, more marked than the simple post-mortem deposition, but still not denoting the presence of real pneumonia. On cutting the lung, mucus, mingled with blood and air, could be pressed out. The left lung was more firmly attached than the right to the costal surface, and in detaching it was torn. The hepatised condition was still more marked and I think there was some softening, but there was no purulent collection. The *heart* was natural and healthy; there was about two ounces of serum in the pericardium.

Abdomen.—Omenta much wasted. O. majus crowded down into left lumbar region, under the spleen. Mucous coat of stomach and bowels slightly softened. Stomach and bowels empty, and the first named long, but not wide.

Liver large and heavy, reaching far into the left hypo-chondriac region, and down to the iliac; the under surface of a leaden color. Nothing abnormal was observed about it. The gall-bladder was large, and filled with a dingy colored bile, which had tinged all the structures near it. Kidneys healthy. Urinary-bladder gangrenous and distended with urine. *Spleen* was much diminished from its ordinary size during life. It now only measured sixteen inches in length, six inches broad, and two and a half inches thick. It was firmly attached to the diaphragm and abdomen by several old adhesions, at which points tough, dense cicatrices denoted the presence of extensive abscesses of times long since past. The largest was within three inches of the summit. There were no such vestiges on the under surface. There was no convenient way of weighing the spleen, but it was thought it would range between eight and ten pounds; but I am confident I have felt it at times when it would weigh nearly twenty pounds troy. It would reach from the diaphragm to the

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pubis, and from the left to the right lumbar region, and feel as hard as a board. Now it was soft, and easily ruptured and broken down.

Such was the condition of James Murray, who, after passing through many diseases of the most severe and alarming character, was finally carried off by what at first was called a cold in his jaw; then styled a salivation, (although he had not taken any medicine for three months), but finally an *abscess*.

At one time (in 1844) he had orchitis, and at the time lost nearly all the scrotum, but finally the testicles were recovered.

Adaline, a negress, ætat 30, mother of five children, stout, and general health good. Remained in the swamp during the overflow. In the month of May she was delivered of a healthy female child; lochia slightly checked, but continued; lactation natural. She was attacked, in July, with severe pains in the shoulder and head, particularly in the ears, when inflammation was followed by free suppuration. Suppuration continued unchecked, involving the sub-maxilliary region, and finally the whole scalp and nucha, and the entire palatine region, fauces, etc. Unwearied efforts were made to arrest or check this extensive cellular sloughing, but in vain. On the 25th November the accumulation was so great in the fauces and glottis as to nearly suffocate her, which condition was not fully understood at the time, and was thought to be quinsy, and, to relieve her, on the morning of the 26th, laryngotomy was performed; she was relieved from the dyspnœa, and rested well during the day. Not having the tracheal tube commonly used, the orifice was kept dilated by curved forceps, the blades being widely separated with a bit of cork. The pus pointed between the right angle of the jaw and right mastoid process, where an opening was made on the 30th. The fauces would have been punctured, but owing to the highly inflamed condition and stiffness of the jaws, they could not be opened sufficiently. The pus was discharged through the opening mentioned, respiration restored *per vias naturales*, and the larygeal opening healed up kindly in a few days. At that that time, *i. e.*, 24th and 25th November, the weather was damp and cold, and she contracted a pleuro-pneumonia, which was followed by a gangrenous condition of the

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lungs, and, besides, I think a portion of the purulent accumulation about the fauces gravitated to the pleura. She was fed by means of a large gum-elastic tube from the time of the operation, nor was the power of deglutition ever completely restored. She fell into a typhoid, hectic condition, gradually declined, and died on the 21st December, and I regret that there was no *post-mortem* examination.

Miss * * *, living on Black river — general health impaired mostly from catemenial irregularities; was attacked early in the year with carcinoma of the lower leg, destroying every thing, except tendinous and cartilaginous structures, from the knee to the toes, the foot being held in connection with the knee only by the tendo Achillis. She was very much emaciated, and suffered immitigable pain. The leg was amputated just above the knee, on the 9th June, by Dr. J. S. Bradstreet, assisted by Dr. May. Chloroform was used with the most happy effects. The popliteal was the only artery which needed ligation. The stump healed kindly, and the patient now enjoys robust health. During the year there have been several cases of uterine hemorrhage, attendant upon parturition, some of which were fatal. Also cases of metritis-puerperalis, some of which proved fatal. It is the opinion that there is a hemorrhagic tendency here.

Intestinal worms prevail here, universally, among children of all colors and classes, and these, together with dentition, kill nearly all the children who die. Parents and masters do not generally use any prophylactic treatment, but wait the manifest appearance of the vermin, when very often the cases prove fatal. A case of worms occurred here, in the person of a young man, which produced hemorrhoidal tumors and retention of urine, requiring the use of the catheter for fourteen days.

Pneumonia, in its simple form, occurs here frequently, but more generally attended with complications, involving the pleura and liver. The great danger of the malady calls for the most prompt and energetic treatment, at the head of which stands venesection, full, free and repeated, followed by scarified cups to chest and spinal region, and large vesicatories. In many cases the disease progresses insidiously, until it is too late to arrest it. The

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average duration is nine days. I am induced to believe that the *fear of prostration* and debility has prevented the use of the lancet in the treatment of pneumonia, which has been followed by fatal consequences. I would reiterate the advice to young practitioners, to bleed again when the disease is not subdued. Again: I am confident that the fear of producing or increasing gastric irritation has frequently deterred persons from the use of the antimony. I have seen cases which I could narrate to prove that, instead of increasing irritation, it has absolutely allayed it.

The antimony has been used in large doses, after the manner of the Italian physicians, with safety and apparent benefit.

But this article is already sufficiently extended; therefore I shall close, with the promise of following it up, at some convenient season, with a brief *medical history* of this section of country, which will afford some very interesting cases.

Trinity, La., January, 1851.

ARTICLE VIII.

ON THE MEDICAL TOPOGRAPHY AND DISEASES OF THE PARISH OF DE SOTO, LA., WITH AN ACCOUNT OF AN EPIDEMIC OF TYPHOID FEVER WHICH PREVAILED IN MANSFIELD IN THE YEAR 1850.

By R. T. GIBBS, M.D.

Mansfield, the seat of justice for the parish of De Soto, is situated two miles west of the Bayou Pierre lake, being the nearest waters of the Red river, and on the dividing ridge of land between that stream and the Sabine, in latitude 32° north, and longitudb 16° west, from Washington. This place was erected into the seat of justice for the parish only seven years since, and now numbers a population of five hundred. It occupies the gradual slope of this ridge, at the descent of which runs a deep ravine, well supplied along its banks with never-failing springs of water.

The character of the soil within the corporate limits of this place, and around its immediate vicinity, is a rich supra-stratum

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of vegetable mould, intimately mixed with very fine sand, resting on a bed of clay, of variable thickness, and in color from a dark Spanish brown to a light mulatto.

This ravine, which passes on the western edge of the entire length of the place, has steep and precipitous banks, covered with large magnolias, bay and beach, and, although the amount of water which flows through it is comparatively small, the dryest weather of the summer and autumn season manifests but little or no effect upon this quantity.

The general appearance of the surface of the country of De Soto parish is gently undulating, with long slopes, by which the lands are well drained, and much the larger extent of the country is high and dry, except its western, or Sabine, boundary, and its eastern, or Red river.

Those portions situated on the small bayous and streams are mostly flat, with some few ponds, or lagoons, but the soil is of a dry, rich, alluvial character, which, when brought into cultivation, well repays the toil of the husbandman.

Running parallel with the Red river, through the entire length of the parish, is the Bayou Pierre lake, which receives all the waters from this eastern slope of the ridge, and discharges them, through various smaller bayous, into the Red river.

The western banks of the lake are mostly high, and of remarkable fertility, but sparsely populated, on account of their reputed unhealthiness. The strip of land, however, between this lake and the Red river, extends to the banks of that stream, with some few elevations, but is mostly low and flat, and submerged for several months of the year; those portions immediately fronting the river being higher, by eight or ten feet, than the borders of the lake.

This lake receives the surplus waters of the river mainly through the bayou Pierre, which separates from the channel a few miles below the town of Shreveport. When the river begins to recede within its banks, many of the flats of the lake are left exposed to the rays of the summer sun, and produce a luxuriant crop of grass and aquatic vegetation.

These flats are annually increasing in elevation by the alluvial deposit from the water, which, when it enters the lake, has so

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little current as to favor this result very much. No country could more abound than this in the circumstances necessary for the production of marsh-miasma, as the river does not ordinarily recede until the month of July, when the atmospheric temperature so much conduces to its development; yet those few persons who occupy this portion of country, do not suffer more from malarious diseases than those living remote from these sources, on the hills and ridges miles distant.

The western boundary of the parish extends along the river Sabine for a greater portion of its extent, and has, as yet, a sparse population. The bottom lands of this river are subjected to extensive annual overflows, and are covered with immense cane brakes, and but few of them have, as yet, been brought into cultivation; the settlers much preferring the hills, which are very fertile and productive, not so heavily timbered, and of much better reputation for health.

Viewing, then, the general geographical features of this parish, it is divided into two great slopes, by a low ridge of hills running due north-west and south-east; the streams from the eastern slope discharging themselves into the Red river, through the lake, and these from the western into the Sabine.

The soil on the eastern, or Red river slope, varies somewhat from the western, being a rich vegetable mould, intimately mixed with sand, while the soil of the western has a greater preponderance of clay, and is of a closer, more compact, and less absorbent nature.

Many of the springs here, likewise on the slope, are strongly impregnated with iron, and some few with sulphur and magnesia, and indications of that metal present themselves in many places.

Running from the slope, nearly in a south-west course, is the Grand Cane creek, which affords an abundance of water during the entire year, is confined in steep precipitous banks, and with its various smaller tributaries, takes its origin directly from the springs at the summit of this ridge. This stream has given a name to this portion of the parish, which has some very remarkable features. It extends in length about eighteen miles, by six in width, the soil being a rich deposit of an alluvial character, with a large preponderance of sand, and the growth consisting mostly of

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large magnificent magnolias, beach and oak, and a dense undergrowth of holly, and other evergreens.

This is certainly one of the most picturesque and beautiful spots in north-western Louisiana, differing as it does so totally from the country surrounding it; it resembles more in appearance the delta of some large river; but these lands are high, rich and level, with only a few small lagoons, mostly immediately on the banks of the Grand Cane.

The finest springs of delightful water are numerous over this entire section, and many of them give indications of iron, and the pirites of that metal, of various size, are found imbedded in the soil, and in the tributary streams.

Fevers abound here—perhaps of a severer form than in any other part of the country—but owing to the very great fertility of the soil, it has been brought into cultivation more rapidly than any other section of the parish, and thus affords a larger amount of decayed vegetable matter in a state of decomposition. The Grand Cane creek discharges itself into the Sabine, but before entering that stream loses all its most beautiful characteristics; the magnolia and beach giving place to forest pine, and the lands becoming rolling and barren.

Corresponding with this stream and its various tributaries, arises, on the eastern or Red river slope, the Bonne Chesse, and the water which flows through the ravine passing on the edge of the town of Mansfield, falls into this little stream. The Bonne Chesse enters the Bayou Pierre lake, and presents many of the same characteristics of soil, growth, etc., to be found on the Grand Cane. But these, too, like the other, disappear before entering the lake, and the growth becomes sparse, and the magnolia, bay, and other evergreens, give place to oak and hickory, with little or no undergrowth. The bottoms bordering this stream are wide, with much wet and boggy land, covered with a considerable growth of cane. Its nearest point of approach to the town is about one and a haf miles; but most of the tributaries arise immediately in the vicinity, and somewhat to the west. So inexhaustible are the springs which supply these tributaries, that it affords an ample supply of water at all seasons of the year.

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Such are, in the main, the general geographical features of soil, growth, and most prominent outlines of this parish, from which it is obvious that its eastern and western boundaries bountifully contain all the elements for miasmatic exhalations. The Creole population, composed principally of Spanish and French, and their descendants, occupy almost entirely the eastern, or Red river slope, where they and their progenitors have lived for near a century.

Fevers of the intermittent and remittent type are now common among them during the summer and autumnal months of the year, but these forms of disease are rarely of a fatal or dangerous character, and instances of great longevity may be seen among them, as numerous as in any of the older and more settled States east of this. They are, however, more afflicted with chronic enlargement of the spleen, which yields, almost immediately, to the sol. iod. ferri., which, for the treatment of this affection, I have found superior to all other remedies.

Previous to the sale by government of the public domain of this parish, in the year 1839, when this population lived in habits of great simplicity, devoting most of their time to the pastoral life of stock raising, and the pleasures of hunting and fishing, all classes were exempt from the autumnal intermittents and remittents, now of such common invasion.

When, however, these lands were brought into market, and sought for with much avidity by immigrants from the older States, and many of the refinements and excesses of civilization were introduced among them, a singular change came over these people, and these forms of disease became common among them; and so obvious was this, that they have ever accused the American population of introducing them.

The only rational solution which offers itself for the explanation of these facts, is to be sought for in their more sumptuous living at present, greater inducements to excesses of all kinds, and a more common indulgence in the use of alcoholic and other liquors, and a substitution of salt food for the more simple regimen of wild game, fresh animal food, and a milk diet. Many of these Creole settlements, where an advanced old age had been attained by the inhabitants, without any forms of fever having been known

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among them, and rarely any other disease, are now visited by annual returns of the autumnal fever.

To contend that such causes are productive of this class of diseases, when direct origin has heretofore been attributed to malarious exhalations, is at war with the received doctrine of the present day; yet these are facts so literally true, that in no other way can this invasion of fevers be accounted for.

The improvements which have been effected in the past fifteen years in the navigation of Red river, cannot afford a reasonable solution of these facts, since much less of the country is now subjected to the annual overflow of that stream than in former years. Investigation and future research will doubtless do much to dispel this uncertainty of the origin and causes of fever, and a broad field of observation lays yet unexplored for the zealous etiologist.

In addition to what has been already said in relation to the fevers now so common among the Creole population, bronchocele is frequently seen among them, particularly in that portion of the parish around the margin of the lake. The thyroid gland, however, does not attain any very considerable size, and the only inconvenience is from the deformity.

The affection yields to the treatment with iodine, either in the form of ointment or tincture, applied externally.

Here, likewise, verminose affections are more common than in any country in which I have ever before practiced, not confined alone to any one class of the population — more common among children, but frequently seen among adults. These complaints are attended with an anæmic condition of the system, and are most successfully managed by mercurial and other anthelmintics, followed by some of the chalybeate preparations.

During the winter and spring seasons of the year, pulmonary complaints frequently occur in practice, particularly pneumonitis of the bilious form, and this presents not more in one portion of the population than the other, and appears equally uninfluenced by locality, being more frequently observed in persons who have suffered from fever the preceding summer or fall.

Though the invasion of febrile diseases is now so common among the Creole population, the American portion of the

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inhabitants is not less exempt; and equally among both, and in all sections of the parish, these forms of disease may be considered as more prevalent than any other complaint.

During a practice, however, of two seasons, by no means remarkable for health or otherwise, I have never yet seen a case of the algid or pernicious intermittent.

The sheet-anchor of hope in the management of all these cases, is large doses of quinine, repeated until the system is brought under its sedative influence, and where timely aid is resorted to, fatality is not often witnessed. Bloodletting, though frequently demanded, is not in such general use as formerly, and when demanded, must be used in the early period of the attack.

With this imperfect review of the general topography, character, soil and diseases of the parish, I now pass on to the main consideration of the subject of this essay—the diseases of Mansfield for the year 1850; and as the remainder of this article will be almost entirely devoted to the subject of typhoid fever, it will be necessary to a correct history of that disease, to take a slight review of the preceding year, comparatively very healthy, when this epidemic first made its appearance in the place.

The spring, summer, and early part of the autumn, were the most remarkable ever known in this region of the State. The rains, which had commenced in the preceding winter, continued, with only short intermissions, almost the entire spring and part of the summer, when the Red river attained a greater elevation by several feet than had been known for many previous years, and many of the obstructions to the discharge of the surplus waters through the Bayou Pierre lake, having been partially removed by the internal improvement force now in the employment of the State, the waters of that lake, as I have been informed by persons familiar with its annual rise, were higher, by several feet, than had been known for twenty years. Rain continued in frequent though light, showers, in the latter part of June, and during July and August, and vegetation attained a degree of luxuriance almost unprecedented.

The character of the fevers of the summer and autumn were mostly of the intermittent type, and of a very manageable form, only a single fatal case having occurred in my

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own immediate practice, and in that the patient's constitution had been completely broken down by a long residence in the bottoms of the Red river, pursuing the laborious and exposed occupation of an overseer. He labored under general visceral disorder, particularly enlargement of the spleen, previous to his attack, and his system was in a complete state of cachexia.

The river had receded so far, by the early part of August, as to discharge much of the water from the Bayou Pierre lake; and the extensive mud flats now left exposed to the rays of a summer sun, and the comparative healthiness of the season over the entire parish, was doubtless owing to the light showers of rain, which continued till the commencement of the cool weather of the autumn.

The months of September, October and November were dry, and moderately warm, the thermometer at its highest point during that period, giving only 90° of temperature. Frost did not occur until the 25th of October, and then so light as not to be destructive of vegetation, and so mild and pleasant was the fall, that the cotton-plant could be seen in bloom in some portions of the parish until early in December.

Gastro-intestinal affections were somewhat common during the whole spring and summer, but presented nothing remarkable from the ordinary form of such complaints in this latitude, at that particular season of the year.

It was during the early part of October, a gentleman arrived in Mansfield with some negroes he had purchased in the city of Richmond, Va., for his own plantation, one of whom, a negro girl aged twenty years, had been laboring under slight indisposition, from disorder of her bowels, from the time of leaving New Orleans. Her owner, not supposing she was suffering under anything more than the ordinary diarrhœa usually produced by drinking the waters of the Red or Mississippi rivers, in persons unaccustomed to their use, administered only such remedies as his own judgment approved of.

At the period of the girl's arrival in this place, though complaining, she was engaged in the ordinary light work about the house, of a chamber-maid, and though her owner had remarked the great change of her appearance, she would not acknowledge

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she was anything more than slightly indisposed, complaining principally of her head, and constantly refusing to lay aside her ordinary business. Remaining in this situation some six or eight days, without any perceptible change or amendment, I was called in attendance on the 11th October, and from her master obtained the above particulars of her case. When seen by me at this time, she was still complaining mostly of headache, with a warm, dry skin, and husky appearance, a pulse tense and small, and beating 120 to the minute. Her eyes were unusually brilliant and sparkling, her tongue coated with a dark yellow fur, dry down its middle, the tip and edges red and slightly moist, with much difficulty in protruding it, and a tremulous motion entirely uncontrollable. She complained of some *uneasiness in her bowels*, attended with thin, yellow evacuations, extremely offensive, great tympanitis, pain on pressure over the region of the small intestines, and much fulness, particularly in the iliac fossa, with a gurgling sound on slight application of the hand to that point.

Her teeth and lips were already covered with a dark sordes, more particularly around the margin of the gums, and the extremities and body of the teeth had that peculiar lustre and dryness I have invariably observed in typhoid fevers, and which I regard as one of its best diagnostic marks. I had no hesitation in pronouncing it typhoid fever, in my first examination of the case, although no disease of a similar character had been ever noticed before by the oldest physicians of the place.

The abdomen was directed to be kept fomented with warm mush poultices of Indian meal, strongly impregnated with mustard, the skin to be sponged with vinegar and water, and the following taken every three hours:—

℞.—Proto-chlor. hydrarg; pulv. ipicac, *aa* gr. ss.; opii. gr. i.—M.

This treatment, with the use *ad libitum* of the neutral mixture, with spirits nitre dulc., having been continued several days, and the disease manifesting no disposition to yield, the abdomen was covered with a large blister.

There was in this case no tendency to daily remissions and exacerbations noted from the time it fell under my care, as I

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afterward remarked in many others during the progress of the epidemic.

I shall not attempt to give in detail the treatment pursued in the management of this case, as no accurate notes were kept of it, and it will be altogether sufficient for present purposes to dwell but briefly on it.

On the 15th, there was increased dryness of the tongue, and a more abundant deposit of sordes about the teeth and lips, considerable derangement of the sensorial functions, subsultus tendinum, picking at imaginary objects in the air, and a disposition to slide down towards the foot of the bed. Some slight degree of cough was now observed, and a stethocopic examination of the condition of the lungs indicated great engorgement and a mucus rhale, attended with some slight degree of expectoration, of a mucous and very adhesive character.

Her pulse had become more feeble, and beat 130 to the minute. A more stimulating treatment was now resorted to: a blister applied on each side of the chest, and to the cervical portion of the spinal column; carb. ammonia, camphor and opium were the remedies mainly relied on in the further treatment of the case.

The cerebral symptoms continued to increase, and became of a much more dangerous and alarming character; she lay on her back, talking incoherently, in broken sentences, having only a vague connection, and finally died on the 18th of the month, and the seventh of my attendance. Medical aid was clearly deferred in this case too long, or the result might have been different. No *post-mortem* examination was allowed, but from the early attendant diarrhœa, the degree of intestinal irritation present through the whole attack, manifested by the pain in the right iliac fossa and the general tympanic condition of the abdomen, I was well convinced of extensive disorganization in the ilium. The dark color of the skin rendered it impossible to recognise the rose-colored eruption, so characteristic of this form of fever; but for several days preceding dissolution, sudamina presented themselves over the neck and chest.

No other case of this fever occurred in this place until the 7th of November, when I was called in consultation by a physician of the town, to visit with him a patient who had been taken

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sick on the 31st of October, and was laboring, as he then supposed, under an attack of gastritis. The general attending symptoms were much the same as in the girl, but of a milder character, and although his fever had then lasted only seven days, the rose colored eruption, was faintly, but distinctly, seen on his chest and abdomen.

No unusual looseness of his bowels was present, but there was an obvious susceptibility to the action of purgative formulæ, even in small doses. The attending fever was very light, the skin being moderately warm, and the pulse beating only 100 to the minute, and no other disturbance of the cerebral functions than what was indicated by the unusual brilliancy of his eye, the great intolerance of light, and much acuteness of hearing.

Having candidly stated my views of the nature of his attack to his attending physician, and the proper mode for its treatment, in which he readily acquiesced, I did not visit him again, but his case was attended, as I afterwards learned, with no untoward symptom, and convalescence commenced about the fifteenth day, and steadily progressed until his restoration to sound health.

The second case, although following so soon after the first, occurred in a remote part of the town from the house where the negro girl had died, and there was nothing to lead to the suspicion of contagion, as no contact had ever taken place.

I shall now proceed to follow up the course of this epidemic, which has been so fatal in its march through our little village, alluding only *en passant* and incidentally to its symptoms and treatment, which I shall reserve for the latter part of this article.

After the occurrence of these two cases, the further progress of the epidemic appeared entirely arrested, the weather now having become cool, dry and bracing, with occasionally light frosts. In the latter part of December there were several very heavy frosts. The weather now grew cold, and rain fell in great quantity, which continued until the 15th of the month following, (January,) at which time urgent business forced me to visit Alabama.

It was on the 14th of this month, and the day preceding that of my departure, that I was called to visit a young lady, aged six-

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teen years, at the house where the servant-girl had died the preceding October.

I did not, at the time of my visit, suspect the existence of typhoid fever in her case, as over two months had elapsed since the above-detailed cases had occurred; and as she had been laboring under repeated returns of intermittent fever during the autumn and summer, I was rather led to suspect only a recurrence of her old complaint.

Finding her bowels constipated, the tongue coated with a dirty yellow fur, and an icterode appearance of the skin and eyes, I administered a mercurial.

On my return-visit next morning, I found her with some degree of fever, and the most extensive rose-colored eruption over the chest and abdomen I had ever seen, and appearances of it were visible even on the face.

The medicine given the preceding night had operated well, and brought away copious bilious evacuations. She expressed herself as being much better, and was sitting up before the fire, interested and amused in the company of her younger sisters around.

Compelled on this day to leave the town, on my visit to Alabama, the case was turned over to my friend and partner, Dr. Clow, and to him I am indebted for an account of the further progress of the epidemic until my return to Mansfield, on the 7th of March.

In the case of Miss C., the young lady alluded to above, one singularity presented itself, in the time at which the eruption first made its appearance, being on the fourth day of her indisposition, and before any particular character could be observed in her fever, the attack resembling the intermittent fever of that season, having a distinct cold stage, with regular intermissions and exacerbations, the fever subsiding with a gentle diaphoresis.

Another peculiarity was likewise observed — and which I afterwards observed to attend many others — *the mixed nature of her fever*, which, although affording all the usual indications of typhoid fever, displayed, likewise, the so-called malarious character, as evidenced by the distinct intermissions which attended, for several days, the icterode appearance of the skin

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and eyes, and the yellow coating of the tongue, with other symptoms of biliary derangement.

The attack proved of unusual severity and duration, and was attended with delirium of a most unmanageable kind, with convulsions during the exacerbations of the fever, and it often required powerful physical force to restrain her in bed.

This young lady was of a very spare habit, narrow, compressed chest, unusual development of the head, and in early infancy had suffered much from scrofula.

At the time when this case had progressed so far as to manifest many of the more dangerous symptoms, several others were taken sick in the same family, and among them the mother, who only recovered after a long and tedious illness. This house, then, may be regarded as the *point d'appui* of the epidemic, and being one of the largest boarding establishments of the village, was consequently often crowded with persons, most of whom only attended at the hour of meals.

Among these, several other cases occurred; but nothing in the progress of this epidemic gave any countenance to the idea of contagion, as the immediate attendants of the sick in this family, with but a single exception, escaped.

The locality of the building is one overlooking the entire town, occupying, as it does, the highest point within the corporate limits. From this the disease spread;—not confined to any section, or class of persons, some few cases being found in nearly every family, but much the larger number, at any one point, was found in this place.

Another building, a private dwelling, just without the corporation, and distant only about half a mile, of about the same elevation, was most severely visited; but, with these two exceptions, most of the remaining cases were of an isolated character, and of a more manageable form. The elevation of these points did not exceed thirty feet above the remainder of the town, but here the disease appeared to spend its full force, and all the cases were of a lingering and grave character. What particular connection could exist between the violence of the disease here and elsewhere, I am unable to explain, as no local cause could be discovered which could more particularly affect these places than

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the remainder. These houses were both of recent erection, occupying sites where only a dense forest stood a few years before.

The cold and damp weather of the month of February exercised a very deleterious influence, in appearing to furnish the elements for its ravages, and its progress was only stayed, in a most gradual manner, as the warm season of the month of May succeeded the cold of the winter and early part of the spring.

A no less salutary influence appeared to be exercised by the gradual cessation of the rains, which had fallen in copious showers during this particular season; and, finally, about the 1st of July, the last case was seen, at which time the earth had become very dry, and the atmospheric temperature was higher than had been known in several preceding years.

This epidemic was confined mostly to persons between the ages of seventeen and forty, but several exceptions were noticed to this rule, and most distinct and undoubted attacks of cholera were found among children of from five to ten years.

With this brief and hasty account of the progress of this epidemic, I shall now proceed to the general symptoms and treatment, and must dwell at but moderate length on that portion of my subject, as the limited extent of an essay forbids anything more than a condensed review of these.

SYMPTOMS.

This fever was, in a large majority of cases, ushered in with a distinct chill, or cold stage, preceded, however, by several days of previous indisposition, principally pain and uneasiness in the limbs and head, want of appetite, and a marked repugnance to mental or physical exertion of any kind. Many cases, however, were noticed where no cold stage could be detected, but, for the first few days, there was a morning remission and an evening exacerbation, subsiding during the early part of the night with a gentle diaphoresis. The tongue, at the incipient stage, was only slightly covered with a thin white coating, but in such as partook of the *mixed character* before alluded to, its color was a rather dirty yellow, and the saliva, though moderate in quantity, was of a mucous and very tenacious char-

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acter, and the patient always seemed annoyed by its presence, and had much difficulty in ejecting it from the mouth. In this last particular character of cases, the skin was dusky and clouded in color, and the eyes were of an icterode appearance; but when this complication of biliary derangement did not exist, they were more commonly remittent, and the mind appeared of more than usual brilliancy in conception, particularly about the sixth day of the attack. Diarrhœa was not found to be a common symptom, though often present, but a great susceptibility to the action of cathartic, or purgative formulæ, was, in a majority of cases, always noticed; but in the mixed variety of cases, the bowels, though often constipated, were easily moved.

When the fever had assumed a settled and distinct character —usually about the fifth day of indisposition — the remissions were not so obvious, and, finally, in a few days entirely disappeared; — the fever continuing during the whole time, only moderating towards the early period of the nights, and the patients then enjoying some degree of repose.

The tongue, at this stage, when protruded from the mouth, had a tremulous motion, entirely uncontrolled by the patient, and the teeth had that *peculiar brilliancy and dryness* which I have constantly observed as a most regular attendant of a typhoid attack.

During my connection with the medical staff of the U. S. A., and while engaged in service during the late war with Mexico, abundant opportunity was presented for the study of this form of fever, which proved so fatal to our men, particularly on the table-lands of the interior, where my attention was first directed to this symptom. I regard it, however, as more an indication of the intestinal disease, so characteristic of this fever, and am not prepared to say whether other forms of irritation, involving the mucous lining of the intestinal canal, may not likewise exhibit this symptom. Another symptom, which I found in every case under my care, was a ringing sensation in the ears, commencing generally in the very onset of the indisposition, and continuing, with increasing annoyance, until either total or partial deafness resulted.

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This was attended with much confusion of intellect, and the patient would insist he had been taking quinine, when not a grain of that medicine had been given.

The abdomen now became somewhat tympanitic, and though moderate pressure caused no complaint; over its general surface, some degree of tenderness was always found over the *right iliac region*, attended with a gurgling sound, as if from the distension of flatus in that portion of the intestinal canal.

About the tenth or twelfth day, a marked change usually developed itself in these symptoms.

The tongue, which had been moist, and only slightly coated, now became dark, dry, and frequently fissured, and covered with sores; the lips parched and dry, and encrusted with a dark hemorrhagic deposit.

The pulse lost much of the volume it previously possessed — became soft, and more frequent; and the mental hebetude was superceded by low, muttering delirium, the patient's most frequent position being on his back, striking at imaginary objects in the air, or uttering incoherent sentences, on diversified subjects, without any connection.

This condition frequently lasted for ten, and even fifteen days, when a change again occurred. If this was for restoration to health, the tongue began to clean itself, commencing at the edges; the delirium gave place to sound and refreshing sleep, and a return of appetite for some of the more favored articles of food.

Should, however, this change be ominous of a fatal termination, the delirium would pass into profound stupor, from which the patient could not be aroused; the stools would be passed involuntarily, in bed, and all the rational parts of the animal become only the instinct of the brute; when death would happily close the scene.

It was at this particular stage, sudamina were noticed in abundance, dispersed over the chest, neck and abdomen; and I have always hailed their appearance as marking a favorable crisis, particularly when attended with the other auspicious symptoms before mentioned. Hemorrhage from the bowels was a common attendant, and, contrary to my previous experience, proved

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a good omen when not excessive, not a single case proving fatal in which it occurred.

The *rose-colored* eruption, which has been laid down by some of the best writers as a prominent characteristic of typhoid fever, did not present itself in every case, but much the larger number exhibited it, in greater or less abundance, over the chest and abdomen, and appearing at irregular stages of the attack,—in several cases, almost from the very commencement, but most frequently about the tenth or twelfth day.

Such, briefly, were the more prominent symptoms of this epidemic; and I now pass on to its treatment.

TREATMENT.

This fever having indicated, in its early stages, decided inflammatory symptoms, whenever the pulse would justify the remedy, blood was drawn from the arm, not so much with a view to lessen arterial excitement as to prevent local and disorganising inflammation. This benefit was usually attained by the loss of from twelve to twenty ounces. One bleeding was in most cases sufficient to answer this purpose, but cups were freely applied, and found a powerful means, particularly when symptoms of intestinal irritation were prominent, applied over the right iliac region.

The application of cups should be followed at once by fomentations of Indian meal, strongly impregnated with mustard, applied as warm as could be borne; nor should their use be ever discontinued during the early or mere inflammatory stage.

When delirium came on early, and of the same violent and unmanageable kind, threatening serious lesion of the brain, cups were applied on the spinal column or behind the ears, over the mastoid processes.

Though I shall ever contend that whoever undertakes the treatment of typhoid fever, and resorts to any other mode of treatment than one essentially *ex parte* in character, using his remedies with great caution, and husbanding the strength of his patient for that period of prostration attending the latter stages of every attack, must frequently be baffled in his efforts at cure. I invariably found in this epidemic the cautious use of mercury a powerful auxiliary means of success.

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In both the *mixed and uncomplicated* varieties, the calomel or blue pill was resorted to every twenty-four or forty-eight hours, given at bed-time, in small doses, and where the intestinal irritation was prominent, with diarhœa, in combination with one of the salts of morphia, or the pulv. Doveri. The combination should contain sufficient of the anodine to insure the patient some degree of repose at night, so necessary for his comfort; nor should this be omitted any night during the illness.

When the use of the mercurials did not keep the bowels in a solvent state, enemas were resorted to, and in the commencing stage of the attack, half an ounce of castor oil, with a drachm of the spirits of turpentine, was found to answer an admirable purpose, relieving the tympanitis, and producing consistent discharges. During the exacerbation of the fever, the free use of vinegar and water, applied by sponging the skin, was found remarkably grateful to the patient, relieving the burning heat, and conducing to a gentle diaphoresis. When cerebral symptoms were present, cold was continually applied to the head by means of towels rung out of spring or well water. The neutral mixture was used at this stage with marked benefit, and, where the symptoms did not contra-indicate its use, with small doses of the vinum antimonii, or the spirit nitre dulc., when there existed much restlessness.

I must now direct the attention of the profession to a remedy for the use of which I am under obligations to my friend, Dr. Clow, of this place, which is not less useful in this form, than in every febrile affection, attended with much arterial excitement, and a hot dry skin. I allude to the carbonate of ammonia, given in three gr. doses, mixed in a wine glass of some mucilaginous drink, and repeated every hour. It calms arterial excitement, and, when venesection has been premised, apparently unloads the capillary circulation, produces gentle diaphoresis, and proves both grateful and pleasant to the patient.

The use of this remedy was found more particularly adapted to the early and more inflammatory stage, where the intestinal irritation was not prominent, and the stomach not disturbed by much nausea.

From the mixed nature of many of the cases which came

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under treatment, and the decided periodicity of the exacerbations, I was *reluctantly* impressed with the idea that quinine would prove a valuable adjuvant in its early stages; but after repeated trials, in doses both small and large, I was finally forced to abandon it entirely, as not only *useless in every case*, but in many, *decidedly prejudicial* to the patient. In this opinion, although I may differ from others in my profession who have treated the disease in other places, I am sustained by the faculty here, who in its use found none of those benefits which are witnessed in the treatment of fevers of the *so*-called malarious origin.

In the latter period of the attack, blisters were resorted to, particularly applied over the abdomen, and when the cerebral symptoms continued, to the spine and extremities.

When the system began to flag, and the patient to lose much of the remaining strength, indicated by the rapid sinking of the pulse, the increased dryness and dark appearance of the tongue, the carb. ammonia, with camphor and opium, were the remedies mostly relied upon. At this time, the use of the alcoholic stimulants were often tried with much benefit, apparently preventing a false stage of collapse, and in a few hours placing the patient in a condition of hopeful convalescence.

Relapse did not occur in any case, and the only precautionary measures adopted during the period of convalescence, were some gently opening medicine, as the bowels were left in a costive condition, and an occasional tonic, the decoction of peruvian bark answering in my hands better than any other article.

Such are the outlines of the rise, progress, and treatment of typhoid fever, as it occurred in the town of Mansfield. They are imperfectly drawn out, but the haste with which I have prepared this article must be my apology for its imperfections.

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ARTICLE IX.

ON THE SANITARY CONDITION OF NEW ORLEANS, AS ILLUSTRATED BY ITS MORTUARY STATISTICS.

By J. C. SIMONDS, M.D.

[If anything can awaken the citizens of New Orleans to the importance of sanitary measures, it will be such developments as are set forth in this extraordinary paper. Whilst it can but be extremely painful and humiliating thus to expose to public view the errors and defects of our municipal government, it seems to be alike demanded by a due regard for the safety and happiness of the present inhabitants, and the future progress of the city. Dr. Simonds has performed an arduous and a thankless task; — one that may bring him more obloquy than praise, more denunciation than gratitude. For the present, then, he must rely for support upon the rectitude of his own intentions, and the hope of ultimately doing good. He boldly assumes the responsibility of publishing to the world the startling facts set forth in this paper; and it is but justice to say, that however at variance they may appear to be with our preconceived notions, or with public sentiment in this quarter, they are placed upon a basis of *recorded figures* that entitles them to profound consideration. He appears to have fabricated nothing; nor has he ventured to draw hypothetical deductions from imaginary premises; all he attempts is to collect and display recorded facts, to compare these with similar facts at other places, to show the most rational conclusions to which they lead, and to indicate their application to our own improvement and benefit. If any one questions either the facts or conclusions here presented, let him show their fallacy, rather than express doubts that may tend to destroy the confidence to which they may be justly entitled. The subject is one of vital importance to this community, and worthy of serious consideration. Doubtless much may be done to improve the sanitary condition of this city, but it is vain to expect that any important measures will be adopted until the people become convinced of their necessity; and this can only be done by laying before them the facts, and comparing our condition, in respect to sickness and death, with that of other cities. In view of this object, the able author of this paper has labored with great energy, and, as he had determined to publish it somewhere, we thought it much better for it to come out *at home*, than *abroad*. Dr. S. is a man of a sound, mathematical mind, and peculiarly fitted for such a task as he has here undertaken. His language is bold, and may grate rather harshly upon the sensibilities of some who occupy

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prominent positions, but if anything will admit of strong language, it is the discussion of matters involving not only the advancement of our city, but the health and safety of ourselves and families. Official conduct may be even severely criticised, without necessarily implying any personal unkindness.

This paper was read before the Physico-Medico Society, and, at the recommendation of this Society, it was read to the public, in the Lyceum Hall. It is to be hoped that its admonitions will be heeded.]—Ed.

Two years ago I attended a meeting of the American Medical Association, which was held in Boston. I there found that the subject of sanitary reform was exciting considerable attention, and that this was based, as it always must be, upon statistical investigations into the actual and comparative number of the births, marriages and deaths, in different localities. In my intercourse with various persons there and elsewhere, I found that New Orleans enjoyed the very undesirable reputation of being one of the most unhealthy localities in the United States. I knew that here we thought our city very healthy. My colleague on that occasion, who had long been a resident of this city, did not hesitate to avow his opinion of its general salubrity. In reply to an attempt to prove its unhealthiness by a reference to the very violent epidemic of 1847, he said, that *only* about 3,000 died of yellow fever during that year; and I heard the remark afterwards quoted as a most astounding difference of opinion regarding the value of human life. I then proposed to myself to undertake the investigation of this question, with the determination to set it, if possible, finally at rest, and with the hope of being able to convince the world, by an array of unquestionable statistical details and impregnable arguments, that it had done injustice to New Orleans, and that our city was not the Golgotha which it was everywhere represented to be. The subject had not been pursued long when I found that we were laboring under a delusion, and that we had long deceived ourselves regarding the salubrity of our city. This only urged me to more extensive researches, and a more thorough examination of the subject, that I might ascertain the causes of this great mortality, and determine if it could be explained consistently with the theory of the salubrity of New Orleans.

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The difficulties encountered in the pursuit of this investigation, have been very great. Authentic data were obtained with the greatest difficulty; —at times repulsed, because not clothed with official authority, that would enable me to demand the information desired;--in general meeting with courtesy at the hands of those from whom the data were to be obtained, my researches have been facilitated by the use of pens and paper, and the liberty to work out for myself what I desired, under the cold and criticising eyes of those who probably regarded me with distrust, as half a madman, for endeavoring to collect information that was not directly convertible into dollars and cents.

After these difficulties were surmounted, and the necessary data were collected, the labor of thoroughly digesting and analyzing such multifarious materials, was vastly greater than any one of my hearers can possibly conceive. These difficulties have been surmounted — this labor has been performed—and all the apologies for the great number of deaths, and the arguments in favor of the salubrity of New Orleans, have been thoroughly examined and carefully considered. The conclusions to which I have arrived have not been favorable to the opinion here entertained, but have justified the worst opinion existing abroad regarding the sanitary condition of our city. Shall these conclusions be published to the world? shall they be uttered here? Here, if anywhere, the subject should be agitated. But who will heed? who will believe statements directly conflicting with the general sentiment of the community, and apparently injurious to its best interests. A simple love for the truth would at once decide in favor of its unreserved publication. But when I scrutinize the hygienic regulations of the city, to see if they be susceptible of amelioration, and when I decide that a certain portion of the deaths annually occurring here might be prevented by a proper sanatory system, every sentiment of humanity — every impulse of philanthropy, and even the dictates of self-interest, decide in favor of their promulgation in the most glaring colors that truth will justify.

It is constantly asserted, and generally believed, that it will injure the prosperity of New Orleans to admit, in the public

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press, that it is an unhealthy city. This assertion I do not believe, but feel well assured that an honest statement of the truth with regard to the health of the city, would ultimately promote its true interest and permanent prosperity. At present the truth is so well known abroad, and so studiously concealed at home, that the statements of the press are unheeded and disbelieved. It is time to adopt a different policy: to direct our attention to an investigation that will determine the truth, regardless of its influence upon opinions abroad, and to commence endeavoring to improve the health of the city.

If New Orleans can only be sustained by a concealment of the truth, and a criminal immolation of unsuspiceeting victims on the altar of Mammon, the sooner it falls the better. If our commercial prosperity depends upon the reiterated assertion of a falsehood, it has but a slender basis, and must ultimately be lost. If it be necessary to hang out false lights to allure the unwary to their destruction, that we may gloat upon their remains like beasts of prey, then can we but wish success to every enterprise calculated to divert the course of trade to more honest and more honorable channels. Such, however, is not the case. New Orleans possesses natural advantages, that only require the aid of vigorous hands and honest hearts to attract as strong a tide of immigration, and as great a proportion of the commerce of the country, as she has ever yet received. Do these incorrect and dishonest assertions add one iota to her prosperity? who credits or acts upon them? Go out of the city of New Orleans and find the man who believes them. They deceive nobody but ourselves. The press and the people may reiterate the assertions, but unsupported by reliable statistics, and contradicted by private information, they possess no weight abroad.

What, then, shall be done? Cease to deceive ourselves, and proceed to seek earnestly for the truth, determined to embrace it when found, and hold it up for the inspection of all who are interested. Do not any longer say that the deaths occur in the Charity Hospital — that they are of poor immigrants, who are unaccustomed to the climate — that they are due to the want or imprudence of strangers and the unacclimated, and consider this a sufficient apology for a high rate of mortality; commence

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immediately an investigation into the facts, and an examination of the causes of the prevalence of disease, and proceed vigorously to remove them. Reörganise your sanatory corps, and revise your sanatory regulations; compel your Board of Health to do its duty, and to insist upon the performance of duty by all of its officers and dependants; examine the condition, and study the workings of your hospital systems; institute such new police regulations as may be found necessary, and consider the protection of human life against disease and crime, as paramount in importance to every other question. Until this be done New Orleans will always remain unhealthy. When the citizens of New Orleans are convinced of a truth, admitted by all the rest of the world, viz., that New Orleans is unhealthy, they will endeavor to remove the causes of disease; but until they be assured of this, it is vain to urge the necessity of an extension of water privileges, a system of sewers, the proper paving of her streets, and the prompt removal of filth. Remove the causes of the insalubrity, and her progress in population, wealth and commercial greatness will be more rapid than it has ever been.

Sickness and death is the lot of every organised being; but observation and experience have shown that the amount of sickness, and the proportion of deaths, differs widely at different epochs of life, and in different localities. Though many of the causes of disease and death are still veiled in obscurity, some have been so clearly demonstrated that but little light can hereafter be thrown upon them. Many of the causes that are known are removable by the application of the knowledge and skill of man. By every test that can be proposed, it may be proved that in certain cases, the amount of sickness and the proportion of deaths has been diminished by the adoption of proper sanitary measures. The following extract from the Sanitary Report of Massachusetts (pp. 248, 249), will serve, for the present, to prove this:—

'Sanitary improvements in England first began in the navy. It is observed, in a sanitary report, that so dreadful was once the condition of the royal navy, that, in the year 1726, when Admiral Hosier sailed with seven ships of the line to the West Indies, he buried his ships' companies twice, and died himself of a broken heart. Amongst the

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pictures there presented — as in "Anson's voyages, 1740–'44,"—were those of deaths to the amount of eight or ten a-day, in a moderate ship's company; — bodies sown up in hammocks, and washing about the decks, for want of strength and spirit on the part of the miserable survivors to cast them overboard. Dr. Johnson, in the year 1778, thus describes a sea life: "As to the sailor, when you look down from the quarter-deck to the space below, you see the utmost extent of human misery; such crowding — such filth — such stench! A ship is a prison — with a chance of being drowned; — it is worse — worse in every respect — worse air, worse food, worse company."

'In 1779, the proportion of deaths in the royal navy was 1 in 8 of the employed; in 1811, the proportion was 1 in 32 of the employed; and from 1830 to 1836, the average number of deaths annually was 1 in 72 of the employed. And in this calculation, the deaths from all sources are included; — from wounds, drowning, and all other external causes, as well as from disease. From the latter source, the deaths were in proportion of 1 in 85 of the number employed, annually. These figures are eloquent beyond any words that can be employed. They excite — as they are fitted to excite, especially at first sight — our wonder. They ought, however, to occasion more of gratitude than astonishment, because the causes of the difference are not difficult to determine, and because almost all that appears in favor of recent times, is due to the superior intelligence and humanity infused into the administration of the navy.

'Equally good effects have followed the sanitary reforms in the British army. The mortality among the British troops at Hong Kong, in 1842, was at the rate of 19 per cent., or 190 in 1,000; in 1843 it was 22 per cent., or 220 in 1,000; and in 1834 it was 13½ per cent., or 135 in 1,000. But during these years the garrison was very badly accommodated; in 1845 their accommodation was greatly improved, and the mortality diminished to 8½ per cent., or 85 in 1,000; and since that time, the troops having been lodged in what may be termed, from their excellence, "model barracks," their mortality at once dropped down to 2½ per cent., or 25 in 1,000; a rate not much exceeding that of stations esteemed healthy. Since the adoption of the measures proposed by Dr. R. Jackson, * * * * * * * the diminution in the rate of sickness and mortality has been such as to justify the assertion, that, if this measure had been carried into effect at the time it was first urged by him, the lives of from 8,000 to 12,000 men would have been saved; — a sufficient lesson, one would think, to our authorities, not to delay the introduction of improvements which experienced medical officers concur in urgently recommending.'

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This shows that efficient measures will promote the public health; and it is equally susceptible of proof that sickness and death, in an increased degree, and beyond that which is natural to man, and normal to the locality, is the penalty that every community must pay for the neglect of those sanitary requirements that are peculiarly adapted to its situation. The penalty is a costly one, and estimated in any way in which it can be turned into dollars and cents, would be found to exceed, by far, the most lavish expenditure for the most costly hygienic appliances. The cost of the preventible sickness and deaths that have occurred in New Orleans for the last ten years, doubtless exceeds that of the total public expenditure on all other accounts. The persons who have died, and whose deaths should have been prevented, would have placed ours as the third city in the Union, and their lives would have enriched us vastly more than the deaths of the few—very few—who have been unwarily attracted here by the assertions of the salubrity of the city. The cost of the Charity Hospital alone, during eight years, (1842–'49,) has amounted to nearly half a million of dollars. The cost of your Orphan Asylums I do not know— but it must be enormous. To these items should be added a certain portion, which cannot be estimated, of the cost of your police system and judiciary department, for who can tell how much of the crime has been due to the poverty caused by sickness and death, widowhood and orphanage, and the want of parental control and education. The number of beggars upon your streets have, of late, increased to such a degree as to has become a public nuisance, and your public press begins to demand effectual measures for its suppression. None can say how much of this pauperism is the result of the prevalence of disease, but especially of cholera, which is well known to carry off a larger proportion of those in the prime of life than of any other class. Public opinion should commence by following out this pauperism to its cause; and if it be found to depend, in a considerable degree, upon the mortality of the city, it is evident that the most effectual means for its suppression will be the improvement of our sanitary condition.

An accurate investigation into the vital statistics of any region of country, involves but few, though very precise and definite,

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principles; but it requires a very large number and an important body of facts, constituting the data to which the principles are to be applied. The facts requisite are, first, the total number of the population, as well as the numbers of the different classes of the community, according to sex, age, place of birth, length of residence, pecuniary circumstances, or social condition. Second, the number of births from this population, specifying the sexes, still-births, etc. Third, the number of deaths, and their causes, as respects not only the total population, but also that of the different classes of the community, viz., the sexes and ages. These data being accurately known, the vital statistics of a community would involve a very simple arithmetical calculation, which, however, would clearly indicate the actual and relative condition of the different classes of the community. Without a complete system for the registration of every birth, marriage, and death, the vital statistics of every locality must be imperfect; but with the register of the dead, and the census returns, an approximation may be made sufficiently accurate to indicate, generally, the degree of salubrity of different localities.

These data, viz., the number of the dead, and that of the living population, may be obtained for almost all cities, and must be assumed to be correct until errors are specifically pointed out, and fully proved.* The ratio of the number of the population, and the number dying during a certain year, constitutes the mortality for that year, which, of course, will not so correctly express the degree of salubrity of any place as the average of several successive years; and in comparing different localities, the greater the number of years of which the average is taken, the more correct will be the comparison. While I have the mortuary statistics of other cities, extending through a sufficient number of years to deduce a fair and correct average mortality, I have only been able to obtain for New Orleans a continuous record for four and a third years; which must, therefore, for the present, be adopted as approximating to the true mortality of this city.

* It is worthy of remark that the officers are sworn to perform their duty, and to take the census as correctly as possible, and that being paid in proportion to the number obtained, they can have no reason to underrate the population.

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Population of New Orleans:—

City census,	March, 1847,	94,526
State do.	August, 1847,	79,503
United States do.,	July, 1850,	116,407

Population of Lafayette by the United States census:—

1840	3,207
1850	13,350

The census of the city of New Orleans was taken by the city authorities in March, 1847, and amounted to 94,526. In the same year, in August, it was taken by order of the State, and amounted to 79,503. The United States census, nominally referred to July 1st, 1850, but really completed during the past winter, will not differ much from 116,407. The mean of these three censuses is 96,812, which may be fairly considered the average population of New Orleans during the four and one-third years of which the deaths are known. Let it not be said that this underrates our true population. If the data furnished by the censuses are sufficiently correct to constitute the basis of taxation, of representation, and of the apportionment of the school fund, etc.,— if these censuses approximate sufficiently for all political and politico-economical purposes, why impugn their correctness when applied to the more important uses of the statist, in determining the hygiène and sanitary condition of the city.

I have not been able to obtain the census of Lafayette, as taken by the State in 1847, but if we asssume that the population increased uniformly from 1840, the total of both cities would average, for the last five years, 106,885. Referring the population of New Orleans, as taken by the city in November, 1847, to the year 1846, the following table will show the population for each of the last five years:—

Estimated population of New Orleans and Lafayette:—

	New Orleans.	*Lafayette.*	*Both.*
1846	94,526	7,546	102,072
1847	79,503	8,703	88,206
1848	90,276	10,037	100,313
1849	102,509	11,575	114,084
1850	116,407	13,350	129,757

The mean population of New Orleans during this period is, therefore, 96,644; of Lafayette, 10,242; and of both cities,

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106,885. We must now see what number of deaths occurred among this population.

Interments, as shown by the Dead-Books of the Board of Health of New Orleans, and the Sexton's Book for Lafayette Cemetery.

BOOKS OF NEW-ORLEANS BOARD OF HEALTH.			
1846, August 30th, to January 2d, 1847, . .		1,489	
1847, January 2d	7,515		
1848, ——— to April 30th . .	1,915		
		9,430	
From the tables of diseases . . .			10,919
1848, May 1st, to 1849, April 30th . .		9,346	
1849, May 1st, to 1850, April 30th .	7,352		
* Deduct Lafayette, Jan. 1st to April 30th,	173		
		7,179	
† 1850, May 1st to December 31st, - - -		5,488	
		22,013	
LAFAYETTE CEMETERY.			
1846, September 1st to December 31st, .	281		
1847, January 1st to Do. . .	1,654		
1848, Do. Do. . .	784		
1849, Do. Do. . . .	1,716		
1850, Do. April 30th, . .	418		
		4,853	
From examination of names, - -			26,866
			37,785

The details of the preceding table are given, that the amount may be verified, if desired; and it is arranged to agree, as nearly as possible, with the arrangement of the records. For the interments in the Lafayette Cemetery, I am indebted to the courtesy of Mr. Hicks, the sexton. It must be observed, that of the 37,785 deaths during the four and one-third years included in the table, 26,866 are directly obtained from the recorded names of the dead; the other 10,919 are from the tabular statements of disease; but all are derived from the manu-

* Those from New Orleans being only reported.

† Includes all interred in Lafayette.

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script records, to avoid the danger of typographical errors. The number of deaths is, therefore, certainly not over-estimated, but is known to fall short of the truth, inasmuch as it does not include the deaths in the Hebrew cemetery in Lafayette (except for eight months), nor the bodies of those used for anatomical purposes, nor a portion of those dying in the Charity Hospital, where two are frequently placed in the same coffin, and only one reported to the Board of Health.* The total, however, approximates to truth, and no more is required to show the fearful mortality of New Orleans. We must next calculate the average annual mortality for this period, viz., the last four and one-third years.

The total of the annual population for four years, with one-third of the population for 1846, amounts to 466,384; the deaths amounting to 37,785, would therefore give, as the average annual mortality of New Orleans and Lafayette, 8.10 per cent., or 1 in every 12, nearly. If we take the number given by the United States census, as the average population for the entire period, the mortality would be reduced to 6.7 per cent. Even if we were to take the highest numbers that have ever been obtained as the average population for the entire period, viz., for Lafayette, as above, and for this city, as taken by its authorities in February, 1851, *including one thousand added by order of the Council*, it would only amount to 135,301: and the mortality would be reduced to 6.4 per cent., a number sufficiently high to prove a greater mortality than that of any other city, but still far below the truth. In order to know whether this mortality be excessive, let us see what the statistics of other cities show.

I here present the mortality of the cities of the United States, carefully caculated by myself from authentic data. The data, the principles of the calculation, and the authorities, will be hereafter published, the result only being here given..

* Without attempting, at this time, to estimate the additions to be made on these accounts, I will simply state, that the report of the Board of Health for 1849 shows that 2745 died in the Charity Hospital, while only 2304 were interred in its cemetery. A small portion of the difference were interred by friends in other cemeteries, In 1850, there died 1884 in the hospital, while 1446 were interred in s cemetery, according to the report of the Board of Health.

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Average Annual Mortality of various Cities of the United States.

Boston,	39 years,	1811 to 1849		2.4572
Lowell,	13 "	1836 to 1848		2.1194
New York,	45 "	1805 to 1849		2.9622
Philadelphia,	34 "	1807 to 1840		2.5510
Baltimore,	14 "	1836 to 1849		2.4917
Charleston,	27 "	1822 to 1848	Whites	2.4826
			Blacks	2.6458
			Both,	2.5793
Savannah,	8 "	1840 to 1847	Whites	4.1616
New Orleans,	4⅘ "	1846 to 1850		8.1017

Average Annual Mortality of Other Places.

* Massachusetts, 1847, '48,		1.59
† Twelve Counties of England,		1.93
† Twenty-six Cities	Do.	2.72
‡ London	Males	2.74
	Females,	2.31
‡ Liverpool,	Males	3.53
	Females	3.15
§ Liverpool, 1850,		2.73
§ Manchester,	Males	3.65
	Females	3.31

It will be seen that the mortality of New Orleans is nearly double that of Savannah, the highest on the list, two and four-fifths times greater than that of New York, and more than three times that of any other city. I must confess my surprise at the great mortality of Savannah, and must add that it is highly probable that its mortality in former times was even greater, but I have not the data for the calculation. I have the deaths of whites annually from the year 1810, but have been unable to obtain the numbers of the white population of the city, anterior to 1840; I must also add that I have not yet examined the mortality of Mobile, for a similar reason.

But it may be said that the year 1847, should not be included, as it was a very unusual year, nor the cholera period of 1848–'9, as this also constitutes an exception to the general healthiness of New Orleans. I reply, first, that the cholera and all other epidemics are included in the calculations for the other cities;—but let us enter into a more accurate calculation on these points.

* Calculated from Registration Reports.
† Dr. Jarvis on Vital Force—Appendix.
‡ M'Culloch's British Empire.
§ Chambers' Edinburgh Journal, March 1, 1851.

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The year 1849 is generally considered in New Orleans, a *healthy* year, *cholera excepted*, as has been repeatedly asserted by the medical profession and the press. During this year, Philadelphia, with a population three times that of New Orleans, had fewer deaths by four hundred, and even if we deduct the deaths from cholera in the latter, the mortality of Philadelphia compared with the population, was but one-half that of New Orleans. From 10,661 deaths in New Orleans and Lafayette during the year, deduct 3,285* deaths from cholera and cholera morbus—there remains 6,577; taking the population at 115,000, the mortality would be (excluding cholera) 5.719 per cent.

Again, let us take the year 1850. Our daily press announced to the world the continued healthiness of the city, the citizens rejoiced in its salubrity, and the medical profession were for the most part idle during the year. The Board of Health state that the cases of yellow fever were so few as scarcely to deserve notice; that cholera was at no time epidemic, and that if any epidemic prevailed, it was dengue, which is not a fatal disease. The Mayor says, in a message to the General Council, as published in the official newspaper.

'It affords me much pleasure to observe that the city has been perfectly healthy during the past year, and free from all epidemic. This gratifying fact is in part attributable to the opening and laying out of streets in the rear of the city, a measure that must contribute not only to the increased salubrity, but also to the prosperity of New Orleans; at the same time it is due to state that this exemption from disease is also to be ascribed, in a marked degree, to the energy of the Board of Health, who, with comparative limited means at their disposal, have accomplished every thing that could be done towards improving the sanitary condition of the community.

'The regular weekly publications of deaths by the Board, have not been without their effect, in checking the unfounded statements that were formerly circulated in regard to the mortality of New Orleans, proving, as they have done, that with the rare exception of epidemics, to which all large cities are liable, we can lay claim to as great a share of health as is enjoyed by equally populous communities.'

This, then, is a favorable year, and we can surely take this one as a test, and parade it before the world as a proof of the

* The deaths from cholera in Lafayette are unknown: the interments from New Orleans are, however, included in this number.

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general salubrity of New Orleans. The tables published by the Board of Health give 7,819 deaths; I can show omissions, of which no notice is made in the report, which would make the aggregate 8,086, being but 700 less than the average of the last four one-third years, including the cholera and the yellow fever of 1847. The mortality, therefore, of the healthy (for New Orleans) year, 1850, was 6.22 per cent. This must convince the most skeptical. If New Orleans is *healthy* when one in every sixteen persons dies, and when the admissions to the Charity Hospital amounts to one in every seven inhabitants, or 14.1 per cent., then should we be informed what would be admitted to be an unhealthy year, and what number of deaths is requisite to prove the insalubrity of this place.

Again, bearing in mind that the population of New Orleans and Lafayette is less than 130,000, and that during the *healthy* year, 1850, the deaths amounted to 8,086, look at Liverpool: with a population of 370,000, nearly three times that of New Orleans, the deaths only amounted to 10,123; compared with the population, the mortality of this year was in Liverpool 2.736 per cent.—of New Orleans 6.220 per cent.; or, while in every 1,000 sixty-two died in New Orleans, only twenty-seven died in Liverpool. It has been said that the deaths in New Orleans occur among those merely passing through the city, but Liverpool is the place of emigration for the greater part of all the Irish emigrants to all parts of the world. In fact, during the famine in Ireland, it was estimated that at one time there were in Liverpool 100,000 Irish paupers, men, women and children.

We, in New Orleans, consider the past few weeks a period of unexampled health; let us, then, compare the weekly statement of deaths here with those in Boston:

	Deaths in Boston.	N. Orleans and Lafyt.
Week ending, 1851, Feb'y 22	70	132
March 1	78	135
" 8	77	135
" 15	70	148
" 22	69	157
" 29	74	127
April 5	81	140
" 12	71	162
" 19	57	180
	647	1319

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The deaths in Boston are obtained from the Boston Medical and Surgical Journal, where are given full details of the causes of death, with the sex, age and nativity; the deaths for New Orleans are from a statement of the Secretary of Board of Health, but the sum of the details is three less than the total given by him.

According to the late United Stated census, the city of Boston contains 8,000 more persons than the cities of New Orleans and Lafayette, in which, during nine weeks of our healthy season, the deaths are more than double those of Boston. It is the duty of the Board of Health to investigate this subject thoroughly, to point out the causes of this large mortality, the classes of the community among whom it prevails, and the parts of the city in which it exists. It might point out the number dying without medical assistance, and the kind of medical aid; the length of time sick, and the period of residence here. The certificates are, I know, very defective upon many of these points, but until the Board make use of the data furnished, it cannot expect that the medical profession will render them more full. The publications of the Board only serve to prove an excessive mortality, without enabling any one to trace it to its source, that a remedy may be proposed.

These various comparisons show an unparalleled waste of human life, and it certainly demands immediate and efficient action from the city authorities.

It is to be regretted that the hygiène of the city has failed to receive at the hands of those to whom it has been entrusted, that degree of attention to which its importance entitled it. It is to be deeply deplored that, judging from the manner in which the mortuary statistics have been neglected, their value has not been duly appreciated, nor their bearing upon the sanitary condition of the city thoroughly investigated and fully developed.

It is necessary for me to criticise rather severely the last annual report of the Board of Health. My strictures refer to but two topics,—the tables accompanying the report, and so much of the report (about four pages) as summarily disposes of the important question of the sanitary condition of the city. The remainder of the report, devoted to the investigation of

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'the means to improve and preserve the health' of the city, meets, generally, my approbation, and deserves commendation for noticing fully and fearlessly various topics pertaining to the improvement of its sanitary regulations. It scarcely does justice to the subject of the supply of water to New Orleans, but we cannot go fully into this subject at present, and therefore drop it.

We must also express our decided disapprobation of the recommendation to require privies to be dug to the depth of fifteen feet. We had better try to remove, as speedily as possible, their contents, than provide for its accumulation for years, in such a state as to be always a nuisance. Experience would soon demonstrate the impropriety of the measure, for such privies would be constantly full of water, and would, during very wet weather, overflow, even in the highest parts of the city.

In the remarks made upon the report of the Board of Health, I have regarded it as an official document; and I must add, that, considering it a fair exposition of the sentiments of the community upon the subject of the healthiness of New Orleans, I have referred to it more particularly, as the only tangible statement of this sentiment which I feel compelled to labor to controvert, for the good of the community. With many of the members of the Board I have no acquaintance, and of some, do not even know the names. For those with whom I am acquainted, I have the highest respect, as individuals, and I refer solely to the *official* acts of the Board, as a public body, without knowing how many of its individual members may disapprove of its official acts.

The Board of Health have deemed it unnecessary 'to go into profound researches and philosophical speculations connected with the obituary reports;' though how they can determine the health of the city for the preceding year without 'profound researches,' and a thorough and complete analysis of the 'causes of death,' is not stated. It appears to think that its first duty is to assert the *healthiness* of New Orleans; and its second duty, to furnish such tables that none can easily controvert their position. I have, however, completely analysed them, and proceed to give some of the results, with some strictures upon the tables.

If a board of health desired to mystify the facts and conceal

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the truths furnished by tables of mortality, it should carefully copy the example given in the tables accompanying the late report of our Board. But let us particularise, lest we be misunderstood. In the first place, an alphabetical arrangement is adopted. This is bad at all times, but becomes intolerable when servilely adhered to, and especially when numerous details are given under each disease. It places together diseases the most dissimilar, from the bare fact of the initial letter of the word by which they are designated being the same. This is the principle of an alphabetical arrangement, than which there can be none worse. If, however, the diseases were carefully condensed under the smallest possible number of terms, and if aggregates only were given, the defects of arrangement would not be so glaring. Open the report at pages 56 and 57, and read. Take only the month of September. There are 44 diseases named; there are 8 classes of persons specified as dying of these diseases; there are, therefore, 8 times 44, or 352 assertions made in this page, of this month, of which but 19 are positive, the remaining 333 assert merely negative facts, viz., that no one of the classes mentioned died of the diseases specified. That blanks must occur in a tabular arrangement is certain, but their occurrence in such enormous disproportion shows that the tables have not been properly digested. Let us read some of the assertions made:—

Of *jaundice* there died *no* white male adult.
" " *no* " " child.
" " *no* " female adult.
" " *no* " " child, etc.

But just above we are told, that—

Of *icterus* there died *no* white male adult.
" " *one* " " child, etc.

Thus, some of the facts purported to be set forth in the table are asserted twice, while contradictory ones are also asserted.

Again, there are eight classes of persons of whom some fact is predicated under each of the twelve months; therefore, 96 different entries, and 3 for totals, and each disease named is repeated six times, making 105 entries, of which a large proportion are of numbers too small for any use whatever. Take *ictus solis*,—there is but one death recorded through these 105 entries,

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notwithstanding there is also given *sun-stroke* — a synonymous word. We like to see details preserved, but there is a limit beyond which details obscure the truth. This is but a well-marked instance of the inconvenience of an alphabetical table of diseases. Numerous other instances of diseases so nearly identical, and furnishing so few deaths that they also should be combined, might be given, but it is deemed unnecessary. Justice requires that I should add, that there are but few cases of perfect synonymes.

The first objection to an alphabetical arrangement is, that it places in juxtaposition the most dissimilar diseases; the second, that it causes the introduction of synonymous terms; and the third, that it separates similar diseases. There were but seventeen deaths from fracture during the year, and these are distributed under six different titles, viz., fractures; skull, fracture of; pelvis, fracture of; *thigh*, fracture of; *femur*, fracture of; leg, fracture of. This, again, requires 630 entries, and lacks but eight lines of filling one page of the printed report.

The deaths are given for each sex of white and colored, separately, and each of them is divided into adults and children. It is not stated, however, at what age the period of childhood is supposed to end, and that of adult life to begin. This is very important, and should have been distinctly stated. I have calculated it, from the tables given, at fifteen years of age, which differs from the division formerly made in the reports of the Board, when the numbers were stated under and over ten years of age. The age of fifteen is to be preferred, if the census tables furnish the numbers at the same period, otherwise it will not be possible to determine the relative prevalence of different diseases at different ages.

The Board, however, has adopted the alphabetical arrangement, and as there might be a difference of opinion with regard to any other that might be suggested, and as it appears to think even this supererogatory, we must thankfully receive it at their hands, and not find fault with the arrangement it may adopt. We have, nevertheless, a right to demand correctness in its tables — and this we have not found. Three sets of totals are given: one for diseases, one for interments in the cemeteries,

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and one for the ages. Between the first and second there is a discrepancy in 10 columns out of 96; between the first and third there is a discrepancy in 29 columns out of 48. In the table of ages, the totals of the details differ from the totals printed in nine columns out of forty-eight.

Let us carry the examination of these tables a little further:

There are details given of 244 diseases, as named, distributed among eight different classes of people, for each of the twelve months in the year. These numbers multiplied together, give the enormous sum of 23,424 assertions made in the table of diseases, for 7,819 deaths reported, without a total for the year, the months, or the different seasons of the year. In the table of cemeteries, there being twelve, with the same eight classes, and twelve months, there are 1,152 assertions concerning the interments of the 7,819 bodies in the cemeteries. In the table of ages are 17 ages given (with the uncertain) for four classes of persons, for each month, making 816 assertions on the subject of the age of those dying. Thus, the tables make 25,392 affirmations and negations about 7,819 persons reported to have died during the year, averaging nearly 3¼ assertions for each person; and of these assertions nine-tenths are probably negative. Notwithstanding the extent of the tables, one cannot, without calculation, (and sometimes a most laborious calculation,) answer any one of the following questions:—What is the total number of deaths in any month? the total number of any disease? the total number at any named age? the number of females? of children? of colored? or even the number interred in a particular cemetery. In one word, the tables of the Board furnish numerous details from which might be compiled valuable tables, but in their present form they are of no other use than to perplex and mislead those who may have occasion to refer to them. This is not right: the Board has the power and the means to pay for the compilation of tables that would present every useful and necessary fact pertaining to the mortuary records in so plain a light, that no further labor would be necessary; and such are the tables that it should put forth.

The preceding remark on the tables of the Board of Health require an exposition of the true principles of classification. In

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establishing a system of classification for diseases, the first thing to be distinctly set forth is the object for which the classification is proposed, as the principles of classification must differ according to the end in view. The classifications of nosologists were doubtless first undertaken for the purpose of acquiring a clear and distinct view of the symptoms of diseases, with reference to their identification, or the diagnosis of disease; and, secondly, as to the nature of morbid action with reference to the treatment of disease or practical medicine. When the science of medicine is to be taught to another, these principles must be kept in view, and must form the foundation of a classification for the purpose of instruction in the art of practical medicine. It is on these principles, therefore, that all systems of nosology have been constructed, and they have been proposed by practitioners of medicine, and constituted the only arrangements of diseases, until (so far as I am aware) about the year 1838.

In the year 1836, the Parliament of Great Britain passed a law requiring the registration of all births, marriages and deaths, in England and Wales. This threw into the hands of government a vast mass of materials, which required to be arranged, condensed and generalised. The officials on whom this duty devolved, were not necessarily medical men—they were clerks, and it soon became obvious that proper arrangements would diminish greatly their labor. What, then, was required of them? But first, what was the matter in hand? Leaving out of consideration, as at present irrelevant to this discussion, the births and marriages, there was placed in their hands a vast number of *names* of diseases; they had nothing to do with the identification of particular diseases, or their diagnosis. They simply had to work with a mass of recorded *names*, which might or might not convey an intelligible idea to those required to reduce them to order. What, then, was the object proposed in the collection of these names, and for what purpose were they to be used?

The object of the registration was to obtain facts from which to ascertain the *sanitary* condition of the country, and this knowledge was to be applied to the enactment of *sanatory** regu-

* *Sanitary*, PERTAINING to health—(passive.)
Sanatory, CONDUCING to health—(active.)

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lations, i. e., to the removal of the *causes* of disease. A system of classification was therefore required, differing essentially from that of nosologists. The objects were, then, first, to diminish the number of names by bringing together the multitude of synonymes which different nosologists have proposed, that their system might supersede previous theories. This object, as well as other considerations, required, secondly, that the proposed arrangement should, to a certain extent, conform to the nature of the diseases; but, thirdly, as the chief object of the whole, that the *causes* of disease, as prevailing in different localities with different degrees of intensity, should be kept prominently in view. Mr. Farr, (who has since shown himself an eminent statist), then but an assistant in the office, proposed a system, the outlines of which may be given in a few words. Taking all those causes of death not diseases, he formed a class of external causes of death; the still-born and old age also constituted separate classes. He then selected from the catalogue of diseases, cholera, diarrhœa, dysentery, endemic fevers, eruptive fevers, erysipelas, syphilis, forming them into a class which he entitled zymotic, and which, depending for their development upon local circumstances and hygiènic condition, may be taken as the index to the sanitary condition of different places. This class includes all epidemic, endemic and contagious diseases; all other diseases were considered sporadic, and were distributed into classes according to the organs affected; one class being specially assigned to diseases of general, variable or indeterminate seat. This class has sometimes been misused; thus, Drs. Desaussure and Dawson (in the 'Census of Charleston') have placed under dropsy, in this class, ascites, hydrothorax, etc. The class is, we think, intended only for anasarca, and for those cases reported under the vague denomination, dropsy. Dr. Emerson has done the same thing, and under the title inflammation has included all the phlegmasiæ. It may sometimes be advisable to collect together and present in a supplementary table similar diseases; in other words, to carry as fully as possible, the arrangement of diseases according to their nature; but this should not be allowed to interfere with a different arrangement, and every good arrangement requires that each disease should be named once, and but once.

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The English system was adopted by the American Medical Association, with but few alterations, of which the change to an alphabetical arrangement of the diseases of each class is far from meeting my approbation. The same reasons which may be urged in favor of a classification of diseases, apply equally to the arrangement of the diseases in each class. The English statist had followed out this principle, and the transition from one disease to the next was less violent than necessarily happens in an alphabetic arrangement.

Thus, the classifications in use adopted the principle of classing together diseases according to their causes, to a limited extent only: external causes and zymotic diseases being the only classes to which it was applied. It is really surprising that no other attempt than that of Mr. Farr has been made to apply and extend this principle. The English and American systems possess, however, a greater defect than the mere want of completeness: they are incorrect, inasmuch as the classes do not possess the same degree and extent of generalization. The diseases comprehended in the several classes being regarded as species, the several classes of sporadic diseases are genera, and together would form an order — but the classes of zymotic diseases and external causes not being subdivided, are ranked with the other classes as genera, though they really are orders. It is easier to perceive the discordancy when compared with a correct arrangement, than to explain it briefly, while only looking at the system alone. I shall, therefore, proceed to expound the system which was proposed in the report already referred to, and which I now follow.

All the deaths reported are first divided into those of specified and of unspecified causes of death, and I throw into the latter all errors; that is, after enumerating the specified causes, these deducted from the total will leave the unspecified. This should be necessary only in reärranging printed tables, where typographical errors render it almost impossible to make the sum of the details correspond accurately with the true totals; but it would also be convenient in the preparation of tables from original data, where the error is so small as not to require an entire revisal of the work accomplished.

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The specified causes are next separated into three divisions—zymotic, sporadic, and external causes of death. The first embracing nearly all epidemic, endemic and contagious diseases, which depend for their prevalence upon local causes, or those more widely diffused terrestrial, meteoric or other occult causes, rendering one place less salubrious than another, constitutes the standard by which to compare different localities, and to determine their relative salubrity. The second, embracing nearly all other diseases, and those depending upon the constitution and peculiar organisation of the individual, is the standard for a comparison of the different races, sexes, etc. The causes of death embraced in the third division, render it a good standard to compare the social and moral condition of the inhabitants of different localities.

Each of these divisions, as I call them, are subdivided into classes. The zymotic division has three classes—the first, being intended to contain the deaths from any disease which may prevail as an epidemic, is contingent, and will generally be blank; the second, embracing cholera, diarrhœa, dysentery, fevers, (except puerperal and scarlet), erysipelas, influenza or catarrh, thrush, cholera infantum, croup and dengue, is entitled endemic, and is peculiarly the class for comparison of the mortality of different places, with reference to local causes of disease; the third class has been separated from the zymotic class of other statists, and is the one to which the term zymotic peculiarly belongs; but the name has been bestowed upon the division to conform as nearly as may be to established usage. This class, embracing hooping cough, scarlatina, measles, vaccination, small pox, mumps, will contain only those diseases to which the human race is everywhere subject, and which, having been once suffered, afford thereafter perpetual immunity, except in a few rare cases; it has been named *monoxysmal*, signifying that its attacks are experienced but once, and that no second *paroxsym* is to be expected.

The second division, or sporadic diseases, depend upon such occult causes that it cannot, at present, be subdivided in accordance therewith; it is, therefore, subdivided according to the organs or parts affected. It contains thirteen classes, of which

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one is assigned to diseases of general, variable, or uncertain seat, and to this no disease should be referred whose designation is so explicit as to permit a reference to other classes. To this class I have transferred *anæmia* and *teething*, as being too vague to admit of reference to the classes in which they have been hitherto embraced. For the special diseases included in this and the following classes, reference may be made to the tables, pp. 67 to 78, *ante*.

Instead of diseases of the generative system, I have substituted two classes — diseases peculiar to males, and those peculiar to females, and include, under the latter, diseases of the female breast, and, with some hesitation, hysteria. A special class is also assigned to the diseases of the organs of special sense, less for the few deaths attributed to these, than to render the classification sufficiently complete to be applicable to statistics of morbility and of hospitals. Deaths from old age, and the still-born, form separate classes under this division.

The deaths from external causes, forming the third division, are sub-divided into three classes, the first of which (Class XVII.) is entitled Casualties. It includes accidents, injuries, concussions and compressions of the brain, fractures, drowned, burns and scalds, as well us those dying of meteoric conditions;— the killed by lightning, cold, heat, sun-stroke, drinking cold water, exposure, and also those from the bites of venomous animals. In the next class should be included only those who are wilfully killed, but as the distinction is not generally made in reports, I have assumed that those reported as poisoned and killed belong here, and also that all wounds be considered as connoting the result of the action of another person upon the body of the sufferer. This class is designated Exopathic; implying that the cause of death originated without, and that the death is the result of the infliction of another person. The third class of this division is entitled Esopathic, and is intended to include those deaths resulting directly or indirectly from the actions of one's self; it will, therefore, embrace suicide, the executed, considered as suffering justly from his own mis-conduct,—syphilis, as due to the individual's violation of the laws of morality,—and delirium tremens and intemperance, as originating in a deficiency of the power of self-control.

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In accordance with this system of classification, the deaths in Boston, New York, Philadelphia, Baltimore and Charleston, for a series of years, and in New Orleans for four years, have been arranged; and it is only necessary to compare twenty classes and three divisions to see the relative mortality of these different cities. This examination shows, that in New Orleans the mortality of nearly every class of diseases exceeds that of other cities; and in the division of zymotic diseases, the proper standard for the comparison of different localities, the excess is frightful. The mortality from external causes, and from each class in this division, is also considerably above that of other cities. It is apparent, even from a perusal of the public prints, that the number of homicides in New Orleans is very much greater than in other cities, and mortuary statistics prove the same fact.

But we must return to the table of mortality of 1850, and leave, for another occasion, a comparison of the mortality of different classes of disease.

I have classed cholera as epidemic during the months of March, November and December. The report of the Board of Health states that, 'during the year 1850 cholera has at no time been epidemic;' but it does not specify what number of deaths is sufficient to constitute an epidemic, in the opinion of the Board. In a report to the American Medical Association (see Transactions, iii., 275), I suggested the propriety of recording, in statistical tables, the prevalence of epidemics, by establishing a distinct class therefor, and gave the following rule for determining when a disease was epidemic: 'The number of deaths for the preceding five years being known, the average for each month, week and day, could be calculated, and whenever the mortality from *one disease* equalled the average for the same period, the disease might be considered epidemic, and the period during which it possessed this character should be noted in the reports.' To this rule I would now add that, in the calculation of the average, the mortality from preceding epidemics should be deducted. This becomes necessary for this city (though it can scarcely be necessary elsewhere), as the constant succession of epidemics would place the average very much too high, the rule itself

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placing the epidemic point much higher than would be deemed necessary in any other place than New Orleans, where a mortality at the rate of six per cent. per annum is so common that the city must be considered healthy when it does not exceed that rate. See the following extract from the report of the Board of Health:—

'During the year 1850 cholera has at no time been epidemic, nor has it at any moment been entirely absent. Whilst a few deeply-lamented citizens have been its victims, it has principally affected the newly-arrived immigrants, or those ghastly specimens of humanity that occasionally arrive from California. But such victims are already ripe for the harvest: the former depressed in spirit, debilitated by breathing impure air in the hold of an over-crowded vessel, and subsisting on *cheap* provisions, that were damaged before they were purchased; the latter wasted by the labor of mining in mud and water, scorched by the fierce rays of the sun by day, and shrivelled by the chilly blasts of night, that descend from the snow-clad sierras,—and moreover exhausted and attenuated by diarrhœas and dysenteries, and obscure forms of inveterate intermittents, the almost inevitable consequences of such reckless exposure.

'Now, when these two classes of persons arrive in our city, and they are constantly coming, from January to December, they generally fall into great excesses in eating vegetables and fruits; hence the unusual mortality amongst them. But in speaking of the climate of our city, and its tendency to health or sickness—to longevity or early decay—either in the abstract, or as compared with other localities, the incidental recruits that swell our bills of mortality, whether they come from Havre, Liverpool, Belfast or Bremen, or from California, the "El Dorado" of restless spirits, should be excluded from our calculations respecting the salubrity of our climate.'

By such means New Orleans is proved to be the healthiest city in the world. Throw out of the estimate of deaths those not native; if cholera, or yellow fever, or any other disease, cause many deaths, deduct these also from the calculation; but in comparing the remaining deaths with the population, do not even admit the correctness of the census, but add from twenty to fifty thousand for errors and floating population. The very report from which the preceding extract is taken, is accompanied by tables from which the following facts are deduced:—

The deaths from cholera, during the year, amounted to 1,517, constituting one-fifth of the entire mortality; of these 1,517

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deaths from cholera, there were 1,245 whites, 272 colored; 962 males, 555 females; 1,176 adults, 341 children. The deaths were distributed through the year as follows: in January, 128; February, 29; March, 415; April, 75; May, 66; June 40; July, 12; August, 8; September, 45; October, 101; November, 367; December, 231. It certainly is not credible that during March, November and December, our city was so crowded with 'newly-arrived immigrants,' as to run up our bills of mortality to the point indicated by the above figures, or that the 'ghastly specimens of humanity' from California should have consisted of so large a proportion of children, of females, and of colored.

To return to the question of the epidemic character of cholera during the past year. The statistical tables of New Orleans are as yet too imperfect to permit the application of the preceding rule; I have, therefore, applied another principle. The mortality per annum, from all diseases, of Liverpool and of Manchester, is nearly three and one-half per cent.; of London, Philadelphia and Charleston, S. C., about two and a half per cent.; of Boston, two and a quarter per cent.; of New York city, two and three-quarters per cent. Let us, then, assume that a mortality of two per cent. per annum will entitle us to consider a disease epidemic. The population of New Orleans and Lafayette, by the last United States census, is about 130,000, two per cent. on which would be 2,600, one-twelfth of which would be 216 per month. The deaths from cholera exceeded this number during the months of March, November and December, and it is therefore considered epidemic during these months. During February, 1849, the deaths from cholera only amounted to 222.

Whether the epidemic influence of cholera was equally felt by all classes of the community, is a question of some interest, that may be approximately determined by the tables now given. We say approximately, for we know too well the incorrectness of the tables published by the Board of Health to rely implicitly upon the inferences deducible from them, but as their incorrectness is not due to any preconceived theory, we may presume that it is equally diffused among the facts stated. I find that for the period during which I have designated it as epidemic, it prevailed in the following proportion per cent.:—

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Whites.	*Colored.*	*Males.*	*Females.*	*Adults.*	*Children.*
80.5	19.5	63.9	36.1	75.1	24.9

while, during the rest of the year, the proportion was as follows:—

Whites.	*Colored.*	*Males.*	*Females.*	*Adults.*	*Children.*
85.3	14.7	62.5	37.5	82.3	17.7

It therefore appears that during the months of March, November and December, the proportion of deaths from cholera among the colored and among children was greater than during the rest of the year, showing that the morbific cause operated during this period with greater force upon the very classes of the community who are most stationary, and who certainly did not come from California.

LOSS BY DEATHS.

Let us now attempt to estimate the loss sustained by the cities of New Orleans and Lafayette during the last four and one-third years; the deaths amounting to 37,785. Gangs of slaves are worth an average price of $400, and it cannot be considered extravagant to estimate our entire population as worth the same. Moreover the table given below shows, among the deaths, a large preponderance of males and of those in the prime of life, viz., from ten to sixty years of age. The deaths during this period, then, make a positive loss to the city of $15,114,000 capital. To this must be added the interest on the capital, or the value of the labor of the adults who have died. During the two years 1849 and 1850, the ages of those dying have been published by the Board of Health. From their tables, we find that 61.80 per cent. of all deaths at known ages occur between ten and sixty years: 43.21 per cent. of the entire number being males, and 18.59 per cent. being females, as shown by the annexed tabular statement.

New Orleans & Lafayette.	*Deaths.*			*Proportion per Cent.*		
1849 and 1850.	Total.	Males.	Females.	Total.	Males	Females.
Under 10 . .	4,976	2,750	2,226	33.38	18.45	14.93
10 to 60 . .	9,214	6,443	2,771	61.80	43.21	18.59
Over 60 . .	719	373	346	4.82	2.50	2.32
	14,909	9,566	5,343	100.00	64.16	35.84

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At least one-half of the females who die between ten and sixty years of age contribute to the maintenance of their families, and to the wealth of the city. We may therefore assume that fully one-half of the deaths are of the producing class of the community. Labor here commands high wages, ranging from twelve to forty dollars per month; two hundred and ten dollars per annum will, then, be a low average for the value of the labor lost to the city, and this, in four and one-third years, will amount to, say, $900. The loss of the labor of those who have died, then, amounts to $900 × (37,785 ÷ 2) = $17,003,250. The loss by death in capital sunk, and the value of labor, amounts to $32,117,250.

COST OF DEATHS.

But death brings to every family heavy expenses, and a certain amount of expense is incurred even in the death of a pauper. If we suppose eight rates, viz., 1, 2, 5, 15, 20, 30, 40 dollars, equally distributed, would average $15 as the immediate cost of each death, and the total cost to the city, of the deaths, is 37,785 × $15 = $566,775.

AMOUNT OF SICKNESS.

In estimating the amount of sickness, we shall first state the estimates proposed elsewhere, though they cannot be adopted for this city. These estimates are based upon the number of deaths, and as the relation between sickness and death is not only far from being uniform, but varies greatly for every different disease, the ratio must differ for every locality presenting a different class of diseases. From observations of the prevalence of disease and the occurrence of deaths, during twelve years, in the public institutions in Lancashire, including Liverpool and Manchester, Dr. Lyon Playfair estimates that for each death there are twenty-eight cases of sickness, which he estimates to continue three weeks. Mr. Shattuck obtains a similar result from the cases treated during nine years in the Boston Dispensary, and adopts it in estimating the sickness of Boston. Mr. Farr considers that the number constantly sick is double the number dying in a year, which, by supposing each case to last three weeks and five days, will correspond with the

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other estimate. Mr. Neison's investigations into the sickness and deaths experienced by the members of the Friendly Societies, give seventeen cases to one death, during the period of life from twenty to seventy years of age.

It is evident that the question involved is but the determination of the average mortality of all diseases, and that the less the mortality the greater will be the number of cases to each death. It is very probable that in Boston and England there are at least thirty cases to each death, or that the average mortality of all diseases does not exceed three and one-third per cent., for the estimates are based upon hospital and dispensary practice, in which the mortality must be greater than the average. Mr. Neison's results are probably too low (the mortality being too high), for these reasons, that while the deaths are all reported, the sickness reported to the Friendly Societies is only that which will entitle them to the aid of the society, excluding that which does not disqualify from labor, and that does not continue a certain length of time. Perhaps, in some instances, so long a time as one week may be required by the rules of the society to constitute (technically) sickness.

The following table will show the mortality in many hospitals: —

Mortality of various Hospitals.

* Glasgow Royal Infirmary,	1846,	$\frac{4}{4}\frac{8}{5}\frac{4}{4}\frac{}{7}$	10.64
† Belfast Fever Hospital,	1817 to 1835,		6.66
‡ London, Ditto,	1802 to 1828,	$\frac{1}{7}\frac{}{}\frac{8}{5}\frac{8}{3}$	13.39
* Manchester, Ditto,	1842,		8.12
* Birmingham, Ditto,	1842,		8.64
* Bristol, Ditto,	"		5.58
* Hull, Ditto,	"		5.28
* Leeds, Ditto,	"		4.59
* Sheffield, Ditto,	"		4.13
* York, Ditto,	"		4.27
* Nottingham, Ditto,	"		3.35
* Oxford, Ditto,	"		3.32
* Worcester, Ditto,	"		3.42
* Northampton, Do.	"		2.42

* Edinburgh Medical and Surgical Journal, lxvii., 382.
† British and Foreign Medical Review, iii., 268.
‡ Tweedie on Fever.

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§ All the hospitals in Paris, 1822, ... 11.87
§ Hotel Dieu, 1822, ... 14.66
‖ Ditto, 1830 to 1839, ... 11.71
‖‖ Copenhagen General Hospital, ... 7.00 to 8.00
¶ Hospital of Milan, ... 13.80
** Massachusetts General Hospital, 1841 to 1845, $\frac{193}{2004}$ 9.65
†† Pennsylvania Hospital, —— to 1830, $\frac{2966}{27131}$ . . 10.93
‡‡ Cincinnati Commercial Hospital, 1849, ... 15.93
New Orleans Charity Hospital, 1839 to 1850, $\frac{15223}{10158}$. 15.44
New Orleans Marine Hospital, 1849 to 1851, $\frac{1253}{2188}$, . 5.71
§§ Seamen's Retreat, Staten Island, 1846, . . . 4.00
** Boston Dispensary, 1837 to 1845, $\frac{791}{21265}$ . . 3.72

The only data for the determination of the question with reference to New Orleans, are the records of the Howard Association, and of the Charity and Marine Hospitals.

The records of the Howard Association, which I have been permitted to examine by Mr. Ricardo, furnish the following results:— In 1841, the cases treated numbered 670 — the deaths recorded amounted to eighty-six, giving a mortality of 12.8 per cent; in 1847, there were treated 449 cases—the recorded deaths amounting to fifty-two, the mortality was, then, 11.5 per cent. During this epidemic, two infirmaries were opened: in that on Duplantier street the cases amounted to 164, of whom thirty-four died, the mortality being 20.7 per cent. The Infirmary on Spain street gave 28 deaths (excluding the moribund) among 109 cases, being 25.68 per cent.; including those reported as moribund, the mortality would be 33.6 per cent. These records being summed up, show 1,405 cases treated and 213 deaths, which would give as the average mortality from yellow fever during these two epidemics, 15.16 per cent., or one in six and a half.

The records of the Charity Hospital gives as the average mortality from yellow fever, during twenty-five years, 44.27 per cent., or 1 in 2¼.—(Fenner's South. Med. Rep., vol. i., p. 124).

§ American Journal of Medical Science.
‖ Stewart on Hospitals, 34.
¶ British and Foreign Medical Review, xxiv., 379.
** Shattuck's Census of Boston, 171-173.
†† Journal of Health.
‡‡ Annual Report.
§§ New York Journal of Medicine.
‖‖ British and Foreign Medical Review, iii., 567.

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The average mortality, from all diseases, in the Charity Hospital, during twelve years, is 15.44 per cent., or 1 in 6.47, as shown by the following table:

Abstract of the Annual Reports of the Charity Hospital of New Orleans, for the years 1839 *to* 1850, *inclusive.*

YEARS.	Admitted.	Blacks.	Resident over three years.	Discharged.	Died.	* TOTAL Discharges and Deaths.	MORTALITY, per cent.
1839....	4,833	52	660	3,611	955	4,566	20.9
1840....	5,041	..	1,231	4,370	619	4,989	12.4
1841....	4,380	82	1,018	3,093	1,156	4,249	27.2
1842....	4,404	70	791	3,516	761	4,277	17.8
1843....	5,013	78	1,146	3,672	1,041	4,713	22.0
1844....	5,846	54	966	5,059	713	5,772	12.3
1845....	6,136	144	1,192	5,446	563	6,009	9.3
1846....	8,044	110	2,084	7,074	855	7,929	10.8
1847....	11,890	91	843	9,369	2,037	11,406	17.8
1848....	11,945	15	295	10,010	1,897	11,907	15.9
1849....	15,558	71	..	12,133	2,745	14,878	18.4
1850....	18,476	53	..	15,989	1,884	17,873	9.98
12 years...	101,366	..	..	83,342	15,226	98,568	15.44

To the kindness of Dr. McKelvey I am indebted for the following statement of the *Discharges and Deaths* in the Marine Hospital:

	Discharged.	*Died.*	*Total.*	*Mortality.*
1849	844	48	892	5.38
1850	955	64	1019	6.28
1851 (1st qua'r)	264	13	277	4.69
	2063	125	2188	5.71

* Dr. Simonds here calculates his ratio of mortality from the number of cases treated, to *termination* either in health or death, which, he thinks, is fairly represented by the *discharges and deaths* combined. I can but think, however, it would have been equally as fair to take the total *admissions*, for all whose names are entered on the books were certainly admitted; and, of the large number *unaccounted for*, (mostly absconded,) it is presumable that the greater part had at least gotten well enough to run away. Moreover, the calculation from the *admissions* would probably have corresponded better with similar calculations at other hospitals.—Ed

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Notwithstanding the high rate of mortality exhibited by these Hospital records, when we consider that generally (the New-Orleans Charity Hospital being an exception) none but the gravest cases of disease enter hospitals, we may safely assume that the average mortality of *all* diseases does not exceed five in 100, and I am satisfied that the medical profession here will consider this a large proportion. A mortality of five per cent. is twenty cases of sickness to one death 37,785 deaths: have been before stated to have occurred here during the four and one-third years preceding 1851; there were, therefore, 755,700 cases of sickness. It has before been stated that Farr's estimate would require an average duration of three weeks and five days; Playfair's observations three weeks; and the latter is adopted by Mr. Shattuck in his estimates for Boston. We shall suppose that the average duration is two weeks, presuming a greater prevalence of acute diseases. The number of days' sickness was, then, 10,579,800, equal to the constant sickness, during the entire period, of 6,687 persons, and equal to 28,985 years of sickness experienced during four and one-third years, by a population of less than 100,000, and equal to the entire life-time of 1,159 persons attaining to the average age at death generally attained in this community.

LOSS BY SICKNESS.

Let us see, however, what is the pecuniary loss involved in this amount of sickness. Assuming, for want of more accurate data, that the sickness of the several classes of the community with respect to age and sex is proportional to the number of deaths in those classes, the tabular statement on page 231 will justify us in estimating one-half the amount of sickness as occurring during the producing period of life, among those whose labor conduces to their own welfare, and contributes to the wealth of the community. Supposing, further, that there are 300 working days in each year, or that, in addition to fifty-two Sundays, there are thirteen days lost by holydays, etc.; during the last four and one-third years, the city has lost by sickness the product of 4,347,750 days, (28,895 years $\times$ 300 $\div$ 2), of the labor of those whose services are remunerated. It would be a moderate estimate to suppose this labor worth an average of $1 per day, when

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we consider that ordinary laborers get from $1 to $1 50 per day, that clerks get from $1 to $3 and $5 per day, that some men count their gains by tens of dollars, and that even domestics get from $12 to $15 per month, and their board. Even, however, at fifty cents per day, this loss would amount to $2,173,875.

COST OF SICKNESS.

Not only does sickness cause a loss of labor; it involves an absolute expenditure of money for medicines and medical services, etc. The charity and private hospitals charge $1 per day for slaves, and this may be considered a fair average; for although a large portion of the sickness pays no physician's bill, yet surgical operations and wealthy patients must pay sufficient to make this amount near the average cost. The sickness of the last four and one-third years has, then, involved the expenditure of $10,579,800.

TOTAL LOSS DURING FOUR AND ONE-THIRD YEARS.

Capital sunk by death	$15,114,000	
Value of labor lost	17,003,250	
		7,250
Value of labor lost by sickness		2,173,875
Losses		$34,291,125
Cost of deaths	$ 566,775	
" sickness	10,579,800	
Expenditures		$11,146,575
		$45,437,700

Being an average annual loss of $10,485,623 to the city, and of nearly $105 to every individual in it.

Is it, then, surprising that New Orleans has not progressed more rapidly? What other city has had to encounter such losses, and what other city could stand them? New York, when her population was what ours is now, could not have stood it, if, indeed, even now, she could. Is it wonderful that we are heavily taxed, when so large a portion of our wealth has been lost in the sick chamber, and swallowed up by the grave?

It may be said, that an estimate based on the value of slaves is not fair, inasmuch as the latter is an investment of a certain

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definite amount of capital, while the inhabitants of the city are voluntary immigrants, who have cost the city nothing; but if a slave were given to any one, would not his death be a loss? The reference to the value of slaves serves only to determine *what amount* shall be the average value placed upon the inhabitants; that those who die are worth something to the city and the State is evident, and the only question is as to the amount. The calculation may be made for the city of Boston as well as for that of New Orleans.

It may be said that crowds rushing in fill the places of those who have died; but it is forgotten that instead of adding to our numbers, to our taxable citizens, and to our productive wealth, they only replace those whose death has not enriched any.

If it be said that thousands die whose death is no loss, or even a real gain, it must not be forgotten that thousands die and hundreds leave our city from its unhealthiness, who would be worth to it much more than the average value I have assumed.

Give to this city a population so numerous that the amount of taxation will be reduced, and the cost of labor diminished, and you will increase its commercial prosperity, inasmuch as you will, by diminishing the charges on the passage of produce to the markets of the world, offer inducements for its consignment to this place.

The important question that must present itself to every mind is, can these losses be prevented?—can this state of things be remedied? I answer, fearlessly, yes. You will point to epidemics,—they are the very sources of disease that can be partially, if not entirely removed. You may refer to cholera, and I can show you that in England her statists and sanitary officers point with triumph to this very disease, to prove the efficacy of preventive measures, and the efficiency of her sanatory regulations. During the late visitation of cholera, what cities have suffered severely by the disease? New Orleans and St. Louis; the former of which I know, and the latter I presume, from this very circumstance, have neglected those means that would have prevented its wide-spread devastation, and its desolating blight. But recently a poor man landed in this city: he, his wife and two children, were crowded into a little

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room, with no opening save the door; in a few days one child was attacked with cholera, and in twenty-four hours he was left alone, probably to fall a victim to our recklessness in not even attempting to prevent an epidemic yellow fever. Is it surprising that the rookeries and purlieus of the city should be filled with disease as well as crime.

The following extracts (slightly altered) from the report on quarantine of the General Board of Health, (of England), though not exactly accordant with my opinions, will be instructive to all, and will probably possess more weight than anything that can be urged by myself on this subject.

'Epidemic diseases were formerly universally considered to be essentially different in their nature, each being thought to depend on its own specific contagion; and the correctness of this view seemed to be confirmed by the great apparent difference between typhus, scarlatina, influenza, plague, yellow fever, and cholera; but whether each of these diseases depends on a peculiar and specific cause, or whether they all derive their origin from one common agent, essentially the same in nature, but modified by peculiarities of climate, and other circumstances, and which, under varying conditions, gives rise to various forms or types of disease, each having definite characters, and running a particular course,—which ever of these views be adopted, it is agreed, by the most eminent investigators, that there is a general resemblance between these various forms of disease, and that they have the following characters in common:—They are all fevers; they are all dependant on certain atmospheric conditions; they all obey similar laws of diffusion; they all infest the same sort of localities; they all attack chiefly the same classes, and, for the most part, persons of the like ages; and their intensity is increased or diminished by the same sanitary and social conditions.

'The consideration of these common properties of pestilence, under whatever form or name it may occur, has led to the general conclusion that the true safeguards against pestilential diseases are sanitary measures — that is to say, measures which tend to prevent or remove certain conditions, without which pestilential diseases appear to be incapable of existing.

'The essential condition on which epidemic disease depends is, the presence of an epidemic atmosphere, without which, it is now generally admitted, that no contagion, whether imported or native, can cause a disease to spread epidemically.

'The experience of the present epidemic season affords evidence

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that the influence of an epidemic atmosphere may exist over thousands of square miles, and yet affect only particular localities. The cases of cholera which have occurred in numerous and widely-distant parts of England and Scotland mark the presence of the epidemic influence; yet, over this extended area, cholera has fixed itself and prevailed as an epidemic only in very few places. Why has it localised itself in these particular places? Probably because it has there found conditions of a specific kind, either local or personal, or both. It follows, that our true course is to make diligent search for all localising circumstances, and to remove them, so as to render the locality untenable for the epidemic.

'It has been stated, that however wide the range over which the influence of any epidemic may extend, it cannot localise itself in any particular spot unless it find these fitting conditions; and that, by attending to localising conditions, and removing them, we can avert its attack, or arrest its progress when it does break out. This most gratifying and encouraging result has been obtained, on a large scale, in numerous places, with reference to influenza, typhus, and cholera; and the whole tenor of recent experience leads to the conclusion that, in proportion to the intelligence and energy exerted for the removal and prevention of the localising conditions on which the presence of epidemic disease is now known to depend, we can secure immunity from it.

'Thus, influenza, in 1847, was found to be four times more prevalent in some parts of London than in others; and in the country, while in some districts almost the entire population were affected, in others not a single individual suffered. The local conditions on which this extraordinary susceptibility to the disease, or comparative immunity from it, depended, are, in a great measure, known, and are found to be within our control.

'In like manner, after a careful examination of the experience of Hamburg, with reference to the visitation of cholera in 1832, the general result, resting on accurate statistics, is, that with regard to the same class of the population, there were, among those residing in the dirty and close parts of the town, five times as many attacks of cholera, and nearly four times as many deaths, as among those residing in the clean and airy parts of it — that is, irrespective of the condition of poverty. The difference in the sanitary condition of these two parts of the town rendered the same class of inhabitants in the one district five times more susceptible to the disease than those residing in the other, and increased the actual mortality of the most susceptible fourfold.

'But Hamburg accidentally affords a means of illustrating the

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power of improved local conditions to secure exemption from the presence of epidemic disease during the general prevalence of an epidemic influence, in its highest intensity, by an observation so exact, and on so large a scale, as to deserve particular reference to it.

'Since the epidemic of 1832, a large proportion of Hamburg has been reduced to ashes by the great fire of 1842, nearly one-third of the central part of the town having been destroyed. This part of the city has been reconstructed on a plan avowedly in conformity with the principles of improvement developed in the Sanitary Report; and though these principles have not been fully carried out, yet the result of an improved sanitary condition, as far as it has been realised, is thus stated by Mr. Grainger:—

'"No statistical report of the epidemic of the present year, similar to that of Dr. Rothenburg, has yet been published;* but, after extensive inquiries among several physicians, I am fully justified in stating that the rebuilt part of Hamburg has experienced an exemption from cholera which is as remarkable as it is important. All the medical men with whom I conversed upon the subject expressed themselves unequivocally to this effect; and, indeed, the thing is so notorious, as to be well known to the inhabitants generally. Dr. Rothenburg stated to me, in evidence, that, although there had not been time to classify the cases, it was clear that the epidemic had not advanced so far towards the Alster, or new part of the town, as in 1832. Other physicians state that it has been particularly confined to persons living near the Elbe. Mr. Völkers, whose office enabled him to form a more accurate judgment than other individuals, since it was his duty to take the addresses of all the applicants who came to the central bureau, in answer to my inquiries, states, that from extended observation he had ascertained that, comparing the poor residing in the rebuilt part of the town with those living in the old portion, not more than one of the former had been attacked with cholera for ten of the latter.

'"As certainly as the per-centage of typhus decreases with improved drainage, paving and ventilation, so also will epidemic cholera. The proof of this has been afforded, on a grand scale, at Hamburg. The ravages of disease have received a marked check in the present outbreak, by the substitution of wide, open, and well-drained streets, for narrow, filthy, and damp thoroughfares; by the removal of high mounds of earth, blocking up the streets, and overshadowing the houses, and by guarding a large evaporating surface of water from contamination."'

* Since this was written, the official account of the progress of cholera in Hamburg during the last year (1848), drawn up by Dr. Buck, has reached England, and this document fully confirms, in the main points, the previous statements.

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But I may be asked how much of this loss may be prevented, and will not the prevention cost more than it is worth? One-half, or even two-thirds of this loss should have been saved, and no rational expenditure could equal this amount. But I may add, that no labor that might be bestowed, and no money that could be judiciously expended in determining and improving the hygiène of the city, would be thrown away. Sanitary reform, the question which is agitating other civilised communities, must take place here, whether the movement commences now, or at some future time.

The necessity for a complete revision of our sanitary system is most urgent. At present, no attempt—worthy even of the name of attempt—is made to improve the salubrity of the city, by removing or diminishing the causes of disease, and by improving the condition of the masses of the people; and this for the very obvious reason, that all believe or assert our city to be *excessively* healthy. The only agent in charge of the sanitary police of the city—the Board of Health—is not endowed with sufficient powers to enable it to contribute anything to this end, even if, under its present and past organization, it were competent to the task. Its power is chiefly confined to the preservation of the records of the dead, the results of our defective sanitary system; and this power has, heretofore, been exercised only to the detriment of the city. All that has been done is to publish the total number of deaths, which is sufficient to convince the world, in spite of the contrary assertions accompanying the statements, that New Orleans is very unhealthy. The special causes of this great mortality, the parts of the city in which, and the classes of the community among whom, it chiefly prevails—questions of practical utility in directing attention to those points upon which our sanitary condition might be specially known, and reformation ensue—have been entirely neglected. This should end. Either an efficient system should be established, or the present inefficient, injurious, and expensive one entirely abolished—dispensing entirely with the cemetery records, so that none can know the number of interments. Then would be realised here the sentiment of 'the dead burying the dead'—those dead to all thought except for the present, and for money making; those dead to all desire for improvement;

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those dead to all anxiety for the future welfare of the city they inhabit; those dead to their most important interests, would quietly bury, and quickly forget, their dead.

I have appealed to the medical profession, which elsewhere has taken the lead on this subject; I now appeal to the other classes of the community,—to the city authorities, and to all who, being identified in interest with the city, desire its welfare. To the authorities I submit the following extract from the Report of the Commission on the sanitary survey of Massachusetts:

'Debility, sickness, and premature death, are expensive matters. They are inseparably connected with pauperism; and whenever they occur they must, directly, or indirectly, be paid for. The city or town must pay for the sick man's support, for his food and clothing, for medical attendance on him during life, and for the support of his widow and children (if he have any) after his death. A town in which life is precarious, pays more taxes than its neighbors of a different sanitary character. An individual who is unable to perform a large amount of labor, or no labor at all, is a less profitable member of society than one who can do whatever vigorous health allows.'—(P. 254).

To those who desire the welfare of the city, I will at present only submit, that the moral state of a people is intimately connected with their physical condition. Physical degradation not only engenders crime, but causes disease; and great mortality develops a recklessness of human life and suffering, which, in turn, speedily manifests itself in outrages against person and property.

* * * * * * * * *

I have now given the results of a very thorough examination of the mortuary statistics of New Orleans, and the mortality has been shown to be double or treble that of other cities. I have examined the *causes usually assigned* for this great mortality, and have shown that they are not sustained by the facts. The beneficial results of sanitary reform elsewhere have been indicated, and an extended extract has given the views now entertained in England on this subject. I have shown the immense loss sustained by the city in consequence of its sanitary condition, and have thus demonstrated the importance—nay, the indispensable necessity, of the bestowal of more attention to this subject than it has heretofore received, for thus, only, can

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be determined the *true causes* of this excessive mortality. The data for the determination of this most important question not having been published, are, at present, only in the possession of the Board of Health. By a rigorous analysis of these data, it would be possible to ascertain, definitely, the mortality properly our own, the *special causes* of our apparently large mortality, and the measures to be adopted for their removal. A reference to the several successive annual reports of the Board of Health will show the existence here of many causes of disease, of which it has in vain urged the removal. Dr. Barton's very elaborate paper, read before the State Medical Society,* also points out causes of disease worthy the attention of the authorities and of the citizens.

Perhaps the most effectual means that can be adopted in the present state of things would be the formation of a voluntary health asssociation, which would concentrate and unite the labors of those individuals whose philanthropy would induce them to engage in undertaking, first, to ascertain the truth with regard to our sanitary condition; next, to inform the community upon the subject, and, finally, to urge those measures that might be deemed advisable. The movement in favor of sanitary reform in England was started in this way, and voluntary associations have contributed most essentially to determine truly, and to improve the sanitary condition of various places. The publications of the Health of Towns' Association are constantly referred to as of peculiar value, and are quoted even in official documents. Such an association here might publish cards to be distributed on board of every ship on its arrival, warning immigrants and strangers of the dangers to which they are exposed, pointing out the cautions to be observed, and especially the necessity of prompt medical assistance. We now have a most worthy voluntary society in the Howard Association, but its labors are confined to assistance rendered the sick during the existence of epidemics. Might it not be made a health association, and become more active at all times in investigating and removing the causes of disease?

[* See this volume, *ante*.]

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A sanitary commission should be appointed by authority of the Councils of New Orleans and Lafayette, to examine fully into the hygiènic condition of the city, including in its investigations the internal police of the hospitals, asylums, workhouses, and all public institutions; the condition of the poor and their dwellings; the supply of water, the various factories of gas, chemicals, etc.; the butcheries and dairies; the supplies of milk and bread; in fact, a complete and thorough survey of every thing pertaining to the sanitary condition of the city. The expenditure of $5,000 or $10,000 in such a survey would probably save to the city hundreds of thousands of dollars, in the form of its most valuable property, the lives of its citizens.

It is true that the grand jury examines into these matters, but as such bodies do not consist of persons specially selected for this purpose, they are not in general qualified for these investigations; they can only discover the most glaring evils; and the fact that some have been pointed out, shows that there are numerous others that might be discovered.

Having now completed, as far as practicable, this subject, and having submitted it to the public, it remains for it to determine whether farther researches are needed; whether it will contentedly acquiesce in the continuance of such losses, or whether it will require a complete sanitary survey and a thorough investigation into the causes of disease existing here. I need only add my firm conviction that such an investigation will as certainly point out here removable causes of disease, as it has done elsewhere. If public attention be directed to the subject, this investigation will be made; but as long as the necessity for it is not perceived, it will not be commenced.

P. S. I have but exercised an indisputable right in criticising the report of our own Board of Health, but some may think that the minuteness with which I have specified their errors is unnecessary. I must therefore add, and it will be but justice to our Board of Health to state, that similar erroneous principles pervade the reports of other cities. Dr. Wynne complains of the arrangement of the reports of Baltimore. The reports for New York for 1848 and 1849, now before me, and even those of

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Boston, if the specimen given by Mr. Shattuck in the census of Boston be still followed, are open to the same complaints. The reports in Charleston are the best I have seen, but they err in a want of detail. My strictures, therefore, may do good elsewhere.

[This is only about one-half of Dr. Simonds' paper; and we regret our inability to publish, at least, a great part of the remainder, as it relates to matters of much interest and importance, such as the preventibility of diseases, the classes among which the chief mortality occurs, the relative proportion of these classes here and at other places, the probable number of our floating population, and its nature, the seasons of the year when the greatest mortality occurs, and various other matters, in respect to which the most erroneous impressions prevail in this community. I can but regret that the author had not been somewhat more lenient in his strictures upon the official labors of the Board of Health. These gentlemen perform troublesome duties, without any compensation, and however defective their action hitherto, we can but suppose they earnestly desire the improvement of the sanitary condition of the city, and that they do as much as any others would do with the limited means and powers conferred upon them. The Secretary of the Board receives a good salary, and should certainly furnish full and correct statistics of mortality. As to the discrepancy between the Board of Health and Dr. Simonds, in regard to the *total mortality* of the year in the two cities, it was a simple omission on the part of the Board to obtain *all* the interments at the Lafayette cemetery, and arose from the fact that the keeper of the cemetery was not required to furnish full reports weekly, until the 1st of May, when the new law went into operation. Previous to that time, he furnished, by request, only such as died in New Orleans and were buried in Lafayette. Such are the facts — as I have found on examination. The omission of about two hundred is not very important, but still its occurrence is to be regretted. I have stated, elsewhere, that the Board of Health made greater efforts than usual this year to have the streets kept clean, and I hope they will not relax their efforts until the sanitary condition of this city may be favorably compared with any other in America or Europe. Then will they receive their reward — not in dollars and cents, but in the satisfaction of seeing our city and its inhabitants healthy, prosperous and happy.]—Ed.

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ARTICLE X.

SPECIAL REPORT ON LEAD-POISONING IN THE CITY OF NEW ORLEANS.

BY THE EDITOR.

Having given in my first volume a somewhat lengthy report on what I termed an *epidemic colic*, that prevailed in this city during the summer and autumn of 1849, and ventured to express the opinion that it arose, most probably, from *lead-poisoning*, I shall here resume the subject, under what I deem to be its proper title, and offer such additional information as my pressing engagements have allowed me to collect. The same disease prevailed in the summer of 1850, and, as the statistics I shall offer would indicate, to a greater extent, though so many cases did not come under my immediate observation. The more I have examined the subject, the more strongly am I inclined to believe that not only this colic, but a variety of other affections very commonly seen in this city, are attributable to lead introduced into the system through the medium of fluids in general use. These fluids are common water, soda-water, wines, and malt liquors. The water in common use is obtained from hydrants and cisterns. I will here correct an error which I fell into in my last report, when I stated the extent of leaden tube used in our water-works to be about 'a million of feet.' On inquiry, I have since learned, at the office of the company, that I had been misinformed, and that the extent of leaden tube is about *two hundred and fifty thousand feet*, or a little more than *forty-seven miles*. There are five thousand hydrants, with an average of about fifty feet of leaden tube leading from the iron mains in the middle of the streets to the spouts in the houses.

The cisterns are mostly of wood, into which the water is conducted from the roofs of the houses by means of tin and copper gutters — chiefly the former. During the spells of dry weather these metals must be corroded, more or less, by the action of the heat and moisture of the atmosphere, and when a hard rain falls, the loose oxides must be washed into the cisterns. I have examined some of these metallic gutters, and found them considerably corroded. In some instances, *leaden cisterns*, situated on the tops of large houses, are used by

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persons who are ignorant or unmindful of their deleterious effects.

I have established, beyond a doubt, that a dangerous amount of lead is to be found in soda-water drawn through leaden tubes, and am gratified to learn that many of the most respectable vendors of this beverage have substituted tubes of block tin or gutta percha for the lead. This is not quite sufficient to remedy the evil, however, for the copper founts are lined with a mixture of tin and lead, which is so much acted on by the carbonated water as to require renewing nearly every season.

I have not yet detected lead in the wines I have examined, but found it in draught ale when conducted through leaden pipes. As to the exposure of painters and workers in lead, the effect is so evident as to need no farther demonstration.

Such are the chief sources of lead-poisoning, to which, I believe, the citizens of New Orleans are annually exposed, though some of them require further demonstration. There are others, such as newly-glazed earthenware, pewter utensils, cosmetics and fancy candies, which have been known to produce deleterious effects in other places, but I have not, as yet, had time to examine them.

During the last summer I paid considerable attention to the examination of the water from our hydrants,—enough to satisfy me that it contained lead, but I have not yet been able to demonstrate its existence to such an extent as to remove all doubts as to its deleterious effects. I am authorised by Professor Riddell to say, that he, too, is quite sure our hydrant water contains lead to some extent. This is all I have attempted to establish, as yet. As to the quantity, it is well known that extremely minute particles are sufficient to produce poisonous effects upon some persons, whilst others are hardly susceptible of the poison at all. Tanquerel says the majority of painters do not suffer from lead-colic, whilst it is well known that some persons cannot stay in a newly-painted room, even for a few hours, without feeling the injurious effects of the vapor of lead.

Before presenting the evidences upon which I base my belief in the existence of extensive lead-poisoning in the city of New Orleans, let us glance at the principal diseases that have been traced to this source, and see to what extent they are

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here met with. The most common effects of lead-poisoning, such as *colic* and *paralysis*, are familiar to the profession; but there are many others, more obscure, and not so often seen, that are by no means so well known. The great work of Tanquerel des Planches, to which was awarded the Montyon prize of 6,000 francs, by the Academy of Medicine of Paris, is doubtless the most complete treatise on *lead-diseases* to be found in medical literature. This work was translated and published in this country by Dr. S. L. Dana, of Lowell, Mass., and should be read by every one who wishes to be fully informed on the subject. He divides these diseases into four general classes, under the titles of *colic, arthralgy, paralysis* and *encephalopathy*. He says —

'Diseases caused by this metal are not of equally frequent occurrence. The following table, comprising all the observations collected for this work, shows this relation:—

'Colic	1,217	cases.
Arthralgy	755	"
Paralysis	127	"
Encephalopathy	72	"

'Colic is the most frequent form of lead-disease. It seldom appears alone, being often complicated with arthralgy, sometimes with paralysis, and even with encephalopathy. Colic, arthralgy, different kinds of paralysis, and encephalopathy, are equally liable to appear at the commencement, or close, of the disease. * * * * * Lead-diseases of a similar, or very different form, appear in the same individual at different periods. The earlier kind of lead-affection does not determine the form of that which manifests itself later. * * * It is very remarkable that, in one hundred individuals exposed to the action of lead, in apparently the same circumstances, some are taken with colic, others with arthralgy, these with paralysis, those with encephalopathy.'

He is unable to say why there is a greater disposition to be attacked by one form of lead-disease than another. It is extremely probable that physicians meet with many curious and obscure cases, such as epileptiform convulsions, amaurosis, mental debility, jaundice, neuralgia, marasmus, etc., without suspecting (what may be the fact) that they arise from lead. Lead-colic seldom causes death *per se*, but leads to it through convulsions, apoplexy or enteritis. I shall present some statistics of diseases that may have arisen from lead-poisoning in

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this city, although, as yet, the connection has not been satisfactorily determined in all of them.

It seems that during a period of twelve years, from 1838 to 1851, there were admitted into the Charity Hospital 569 cases of colic. The following statement will show the species designated, and the number of each for the different years:—

	1839.	'40.	'41.	'42.	'43.	'44.	'45.	'46.	'47.	'48.	'49.	'50.	Totals.
Colic	20	00	6	12	14	11	18	10	12	2	00	51	156
" Pictonum	3	10	10	14	00	15	21	14	19	47	44	83	280
" Bilious	5	57	10	18	00	00	00	6	00	1	31	3	131
" Flatulent	2	00	00	00	00	00	00	00	00	00	00	00	2
Totals	30	67	26	44	14	26	39	30	31	50	75	137	569.

From this it appears that the amount of colic has varied very much in different years, and that '*colica pictonum*' and '*colic*' have been the principal species designated. Now, there doubtless were many cases of genuine painters' colic admitted into this hospital, but it is by no means certain that many of the cases marked 'colic,' and 'bilious colic,' were not traceable to lead-poisoning. The amount of colic seems also to have increased greatly within the last three years, from some cause. I would suggest two reasons for this increase:—first, the extension of lead pipe in the improvement of the city; and, secondly, the fact stated in my first volume, that since the outbreak of epidemic cholera in December, 1848, soda water has been drank more sparingly, and was, therefore, longer exposed to the leaden pipes through which it was conducted.

Much the greatest amount of colic occurs at this hospital during the hot months, when people drink most water, of all kinds. Thus, on examining the books for the last three years, I find there were admitted 262 cases of colic, of which 193 occurred from the 1st of May to the last of October, and only 69 cases from the 1st of November to the last of April. I learn from Dr. B. Dowler's copious medical notes, that there was an epidemic of '*painters' colic*' in this city in the summer of 1838, but he is unable to assert positively that the disease was confined exclusively to painters. In this connection, it is worthy of note, that the Water-Works' Company commenced supplying the city in 1837, and consequently the summer of 1838 was the first in which the citizens were exposed to the effects of lead pipes.

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Let us now look to some other diseases that are known to proceed from lead-poisoning. These belong chiefly to the nervous system, and we will refer to Dr. Simonds' statistics of mortality, compiled from the annual report of the Board of Health for the year 1850. I will select the following from the list, and add the number of deaths for each:—

	Totals.	*Whites.*	*Colored.*	*Adults.*	*Children.*
Apoplexy	115	86	29	111	4
Congestion of Brain	101	83	18	71	30
Epilepsy	16	12	4	13	3
Convulsions	354	295	59	24	330
Paralysis	19	15	6	18	1
Total	605	489	116	237	368.

The following statement shows the seasons of the year when these deaths occurred, and the proportion to each:—

	Spring.	*Summer.*	*Autumn.*	*Winter.*
Apoplexy	19	50	19	27
Congestion of Brain	14	57	22	8
Epilepsy	4	9	1	2
Convulsions	68	131	105	50
Paralysis	7	5	4	3
Total	112	252	147	90.

From this it appears that the largest amount of deaths from these diseases occurred in the hot seasons; thus corresponding with the cases of colic.

The whole number of deaths from diseases of the nervous system (a long catalogue) was 1,068; and it thus appears that more than half of them fell to those above specified, which are known often to spring from lead-poisoning.

It will be observed, that a vast majority of the deaths from *convulsions* occurred among children; and it is well known that when children are exposed to lead-poisoning, the brain is the organ most generally affected. The convulsions here specified are exclusive of *trismus nascentium*, from which there were 163 deaths during the year. Of course it is, as yet, a matter of conjecture as to the influence of *lead* on the diseases and deaths above specified, but I am free to confess that I think it a very reasonable conjecture, as will be shown before I have done.

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Let us now turn our attention to *arthralgy*, and take *rheumatism* for our guide, it being the most common affection of that class.

It appears from the records of the Charity Hospital, that in the last three years (1848 '49, '50) there were admitted 1,124 cases of *rheumatism*. The following is the proportion for the different seasons:—

Three Years.	*Spring.*	*Summer.*	*Autumn.*	*Winter.*
Rheumatism	296	230	270	328.

To compare the *warm* half of the year with the *cool*,—624 cases were admitted from the 1st of November to the 1st of May, and 500 cases from May to November. The largest number of cases (131) were admitted in the month of January, but the next largest (114) in August. Cases were numerous in every month of the year. If to these were added the cases of rheumatic pains associated with colic, the list would be greatly enlarged. It is certainly remarkable that so much rheumatism should be seen here in the warmer parts of the year, and as Tanquerel has shown that lead-arthralgy may exist unassociated with colic, and as the only effect of this poison, I certainly am authorised to suspect that lead had some agency in the matter, more especially as so much rheumatism is witnessed at the same time, and under the same circumstances that colic prevails most extensively.

Having given these statistics relative to certain forms of disease which, whatever be their true cause in this city, have been known to spring from lead-poison, we shall proceed to consider the most important of them, and endeavor to throw some light upon their origin and nature. Let us begin with colic.

The results of my limited observations have certainly been quite significant, but not sufficient to afford a satisfactory explanation for the numerous cases of colic that occurred. Many were attacked who had drunk little or no soda-water or draught ale; and if the disease originated in lead, it remained to discover other pregnant sources through which it was introduced into the human system.

As before remarked, the same colic made its appearance in the summer of 1850, and prevailed to an extent but little short of the last. I have devoted special attention to the investigation

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of its cause, and shall presently submit to your consideration facts and arguments which will probably shed some light upon the subject. Before proceeding to do this, however, let us again briefly revert to the general features of this disease, and its concomitant affections, and examine the opinions of standard authors in relation to it.

It seems to be generally conceded by authors, that the symptoms of *unquestionable lead-colic* do not differ in any material respect from those of the bilious colic that has prevailed epidemically in different parts of both Europe and America. They are identical in appearance, and most generally lead to the same unfortunate results. Is it surprising, then, that when a disease is observed to prevail precisely like that which is known to originate in *lead-poisoning*, the suspicion should be indulged that it, too, may depend on lead, although it could not be demonstrated? Certainly not. It is the most rational suggestion imaginable; and notwithstanding the difference of opinion on this subject which prevails among physicians, even to the present day, it is not to be denied that this suggestion has actually given rise to the detection of lead in several places, where, through ignorance, it had been permitted for ages to produce the most painful and disastrous effects. Witness the investigations of Sir George Baker into the colic of Devonshire, and of John Hunter into the dry-bellyache of the West Indies.

A distinguished modern author has observed, that 'whenever there is a disease in the stomach which has the same physiognomy as that produced by lead, where the cause cannot be discovered, care should be taken not to pronounce that it has no connection with lead, for, by investigation, it will generally be discovered that the patient has been, in some way, exposed to contact with lead particles.'—(*Tanquerel*). I subscribe fully to this remark, and think the search should never be abandoned till we have found some other causes that will produce all the effects of lead-poisoning. I do not deny that bilious colic may arise from other causes besides lead—I am alluding to a colic that prevails epidemically, presenting all the concomitant symptoms and *sequelæ* of lead-poisoning. Such we have had in this city for at least two summers, and I know not how much longer.

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Case.—A man recently entered the Charity Hospital, suffering under violent colic, which soon led to severe convulsions, and this resulted in paralysis of the extensor muscles of the arms; he also had neuralgic pains of the limbs and head, which always got worse at night. This man was a hatter, who confessed that he drank brandy freely, but said he was generally thirsty, and drank a great quantity of water, mostly from the hydrants. He said that the only way in which he had been in the least exposed to lead, to his knowledge, was by occasionally having to clean the hat of a painter. He had not been exposed to fresh paint at any time. He exhibited the characteristic tint of the gums and teeth very distinctly. He said he had a similar attack of colic, without the convulsions, in New York, some seven years ago. The physicians of the New York Hospital suspected lead as the cause, but it could not be traced.

Now, what are we to think of such a case as this? Shall we determine that it did not proceed from *lead*, because we were not able to detect it? Would it not be more wise, in view of all the symptoms presented, to pronounce it a case of *lead-poisoning*, whether we could discover its source or not? Numerous instances might be cited where persons have suffered the horrible effects of *lead-poisoning* for months, and even for years before the true cause was discovered. Need I dwell on the vast importance of ascertaining, if possible, the *cause* of a disease? How often does it happen, that, by simply removing the cause, we at once get clear of all its baneful effects. Perhaps no instance could be cited in which this is more forcibly illustrated than *lead-poisoning*. I was consulted by a man who had suffered from colic and rheumatic pains for three months. I suspected the cause to be lead imbibed in soda-water and the hydrant water in common use, and directed him to desist immediately from the use of both. In two days he was well, and has since had no return of his pains. Does not the result in this case confirm the correctness of my suspicion?

Case.—A short time since, a young man consulted me for a continued slight colic, attended with costiveness and neuralgic pains in the head and limbs, under which he had been suffering for four months; he was also slightly jaundiced, and had become quite thin and weak; his pains were always worse at night.

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This young man is part owner of a steamboat, and was taken sick whilst assisting to paint it. He had to desist on account of the colic, with which his complaints commenced; he has remained in the city ever since, but suffered continually from the symptoms just mentioned. He said he had continued thirst, and drank a great deal of water from the hydrants. He seldom drank soda water, and abstained from all spirituous liquors and wines. I believed that this man was first made sick by working with paint, and although he never had any violent paroxsym of colic, I suspected he was continually imbibing, in the water that he drank, a sufficient quantity of lead to keep up the disease. I prescribed the iodide of potass, with vinum colchici, and urged upon him the importance of abstaining from the use of water from the city hydrants, as well as soda water. He at once changed his lodgings to a house where he could be supplied with cistern water; but on the very day on which he changed his quarters, and before commencing with my prescription, he was attacked with the prevailing bilious-remittent fever, from which he was quite ill for several days. During this spell, he suffered greatly with pain in his head, back and limbs, and vomited bile copiously. By means of cupping over the mastoids, one or two mercurial cathartics, and the liberal use of quinine, he recovered completely, not only of his fever, but also of all his former pains, and is now going about perfectly easy. What is to be inferred from this case, but that it was one of slow *lead-poisoning*, which might have eluded detection till the man's health had been completely destroyed, but which was happily relieved by the remedies required to cure his attack of fever, and abstaining from hydrant water.

I have but little doubt that many persons in this city are now suffering from the effects of *lead-poisoning*, and that the true cause has never been ascertained, perhaps not suspected, by the attending physicians.

It has been justly said, that 'the physician should always try to account for the morbid functional phenomena that he observes, and to find a material or positive relation between cause and effect.'—(*Tanquerel*).

The material relation that existed between the colic of Devonshire, and the lead used in the preparation of cider, which was

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formerly, if not still produced to a considerable extent in that country, was satisfactorily demonstrated by Sir George Baker, nearly a century ago; that which existed between the dry belly-ache of the West Indies, and the lead contained in newly distilled rum, was shown by Dr. John Hunter; though it would seem *not so satisfactorily*, as I learn from Copland's Dictionary of Practical Medicine, it has been positively denied by Mr. Quier, Dr. Musgrave, Dr. Chisolm, Dr. Thomson and others.

The connection between painters' colic and the lead used in paints is *universally admitted.*

It remains for us to carefully investigate our own colic and its associate affections, with the view to discover whether there be any material and positive connection between them and the poison of lead.

I will venture to say that but few physicians are fully informed of all the varied morbid effects of lead-poisoning on the human constitution. For myself, I confess, I have learned a great deal since my attention has been directed particularly to the subject. We, doubtless, all knew that lead would cause violent colic, which was sometimes followed by convulsions and paralysis; but how much have we known of the neuralgic and arthritic pains, the apoplexy, epileptic convulsions, the catalepsy, the peculiar delirium and the mental fatuity which have been fairly traced to this cause — which have been cured by its removal, and probably never would have been cured otherwise? Little enough, I dare say! yet all these affections may have fallen to our care, at some time, and defied our art, because we knew not their *cause.* This is rendered extremely probable by cases on record, where the sufferer commenced with colic, then came jaundice, then convulsions, then delirium, rheumatic pains and almost total loss of intellect. At length the whole train of morbid affections was traced to lead poisoning, and this being removed, the patient was easily restored to health. A case of this kind may be found in the Western Lancet, for July, 1850. In this case, the gentleman suffered all the horrors of lead disease for four years, resisting the skill of some of the ablest physicians in the West; but finally the true cause of his disease was discovered, and after its removal the patient was restored to health. I shall insert this extraordinary case at the close of my

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report, as it presents almost the entire train of affections that arise from lead poisoning.

I have already shown that in summer there occurred in this city a great amount of colic, convulsions, apoplexy, rheumatism, neuralgia, and not a few cases of paralysis.

It has been proven by Tanquerel that all these affections may be produced by *lead;* and furthermore, that they do not always follow each other in any regular order of succession, but that any of them may be either *primary or secondary.* As time is not allowed to notice, more fully, all the affections caused by lead, I shall confine my remarks principally to *colic,* which is the most common.

I have given in my first report good authorities for saying that the bilious colics of Southern climates particularly do not differ in any material respect from unquestionable lead-colic — that they present the same symptoms, run the same course, are followed by the same *sequelæ,* and present the same lesions But notwithstanding these remarkable coincidences, we find physicians cannot be brought to agree that they arise from the *same cause.*

It may not be generally known that lead colic is sometimes accompanied by looseness of the bowels and painful *piles.* This is asserted by Tanquerel, and I think I have seen one or two well-marked cases in point. This fact might easily mislead the incautious observer of a disease so generally attended by *obstinate costiveness.*

I have already mentioned a case of our colic, which was followed by convulsions and paralysis, and yet the only known exposure to lead was by *occasionally cleaning a painter's hat.*

The physicians of this city have doubtless all seen our colic accompanied or followed by rheumatic pains. This was mentioned to the Physico-Medical Society last year, by Dr. Stone and other members.

Taking it for granted, that we are all agreed as to the almost exact identity of our colic, and genuine lead colic, I will proceed with my demonstration of the identity of their cause.

I presume it may be taken for granted, that if all the cases of colic witnessed here during the last two years had occurred in persons whom we were *convinced* had been exposed to the influ-

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ence of lead, we would not have hesitated to attribute them to this cause. Failing to trace any such connection, some of us have very naturally dismissed the suspicion of lead, and sought for other causes. If others have succeeded in discovering any which are at all adequate to the purpose, they have been more fortunate than myself, and I shall be most happy to know what they are; but if they have not advanced beyond the vague conclusions expressed by many writers, who have been content to attribute this colic to some *unknown endemic influence*, I can but think they are still in the dark.

The basis of all the skepticism that has ever existed in relation to the dependance of this and similar colics, upon lead-poisoning, rests entirely on the unsuccessful efforts that were made to detect the lead in a satisfactory manner. Now, if I were to succeed in unfolding to you an extensive source of lead-poisoning to which our citizens are constantly exposed,—one amply sufficient to account for all the lead symptoms that have been witnessed, I should still have to answer the questions of the skeptic, when he asks—first, why every person is not affected, if so greatly exposed to lead; and secondly, why these affections only prevail to a notable extent in the summer season?

In answer to the first question, I can only say, I cannot account for the difference of susceptibility among people, not only to this, but various other morbific causes. This is an *ultimate fact* often witnessed, but difficult to explain. Next to workers in white and red lead, painters of buildings are most often attacked with colic: 'It is grateful to know, however, (says Tanquerel) that the greater part of painters pass through life without ever experiencing pain from lead colic.'

I am indebted to Dr. Wedderburn, of this city, for the following interesting facts, recently furnished, which illustrate alike the sad effects of ignorance, and the difference of susceptibility to the poison of lead. The facts are as follows:—

Within the last four years, a gentleman who resides on Magazine street, in this city, has lost four of his children with convulsions, the last having died within the last month (March). During the same time, a negro child in the family had convulsions, followed by paralysis of the leg. There have also been

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three cases of severe colic in the same family. These facts induced Dr. Wedderburn to examine the water used by the family for drinking and culinary purposes. He was informed there were two cisterns in use — a small one of wood, and a large one of lead,—the latter situated under the roof of the dwelling; that the water from this last was used whenever the small one gave out. The water was immediately tested with sulphuretted hydrogen gas and the iodide of potass, when a strong impregnation of lead was at once detected. This was about the 20th March, 1851, after which time there were heavy falls of rain, and the water being tested again, still exhibited a considerable quantity of lead, but not so much as when it was low in the cisterns. These facts leave no doubt on the mind of Dr. Wedderburn, that all the cases and deaths mentioned proceeded from *lead-poisoning*.

Now, here is a family of some twelve or fifteen persons, all exposed to lead poisoning for a considerable time, but, as yet, only half of them have been seriously affected. Doubtless, numerous instances of the kind will be found, when the eyes of the profession and the community are directed to the subject. As before remarked, lead is a cumulative poison, and the introduction of very minute portions of it into the system will ultimately produce disease, but often so remotely as to be extremely difficult of detection. In regard to *seasons* and *climate*, Tanquerel shows, that of 1217 cases submitted to his observation, the greatest number occurred in June, July and August, the warmest months of the year. He was convinced that, other circumstances being equal, the number of sick laborers in lead-works was greater during the warm than the cold seasons of the year. He thinks that the heat predisposes to attacks of lead colic, either by favoring the dissemination of lead, or by rendering more permeable the different organs by which it enters the system. He says — 'there are some persons who are attacked with lead colic every year, at nearly the same time, although they are employed in the same work from the beginning of the year to the time when they are taken sick. Summer is generally the season for these periodical yearly attacks. * * From analogy, it would be inferred, that there are a greater number of cases of lead colic in warm than in cold and temperate regions."

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As it is probable that the chief exposure of our citizens to lead poisoning, for the last two summers, proceeded from the use of soda-water, the reason for its prevalence at that season is at once apparent; and the fact stated in my first report, that since the appearance of epidemic cholera here in December, 1848, less soda-water has been drunk than usual, and it therefore stood longer exposed to the action of the leaden tubes, explains why it should have been more noxious during these two summers than previously. Since I directed the attention of the profession and the community to the injurious effects of soda-water as commonly served up through leaden pipe, numerous instances have occurred in which a clue was discovered to sickness, more or less severe, that followed the drinking of this pleasant beverage. Having been informed by an intelligent attorney, last summer, that he had recently suffered from a severe attack of colic, I told him that it very probably proceeded from soda-water, of which he said he was in the habit of drinking occasionally. He was rather skeptical, but did not forget the admonition. A few days afterwards I was sent for to see him, and found him suffering from an attack of colic, which he admitted had commenced within an hour after drinking a glass of soda-water. He was soon relieved, and, as he afterwards avoided soda-water entirely, he has had no other attack of colic. Dr. Boling, of Montgomery, Ala., informs me that very recently a number of persons were attacked with colic in that city, soon after drinking soda-water from a fount that had been standing several days.

I deem it useless to say anything more about the injurious effects of soda-water conducted through leaden tubes, as has been the custom both here and elsewhere. All skepticism in regard to it has been removed in this city, and the keepers of our most frequented fountains have abandoned the leaden tubes, substituting block-tin or gutta percha in place of them. As I remarked in the beginning of this report, however, this is not quite sufficient to remedy the evil completely, for the copper founts are lined with an alloy of tin and lead that requires correction. We need no better evidence of the powerful action of the carbonated water on this lining, than the fact that it is *eaten through and requires to be renewed nearly every year.* Dr. Dana

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says—'Every precaution should be taken that the tin used should be perfectly free from lead. No lead should be used to make the tin *flow*, and the South-American or Spanish tin should be most scrupulously avoided. It is sometimes alloyed with twenty per cent. of lead.' Thus, our best soda fountains, notwithstanding the large capitals of 'No Lead Pipe' stuck up over them, are still exposed to this impurity, and are liable to affect persons who are very susceptible, or who drink the water for a length of time. The subject is well worthy the attention of the municipal authorities, which should permit no fountain to stand that has any exposure to lead whatever. Dr. Dana has well remarked that, if but one case of disease in a thousand can be traced to the use of water poisoned by flowing through lead, the use of that metal should be discouraged by all who, by their official station or professional character, are the especial guardians of the public health.'

We come now to the more obscure, though by far the most important part of our enquiry, viz., the examination of the waters in common use for drinking and cooking—the water from our hydrants and cisterns. As for soda-water, it is only used as a luxury in warm weather, and may be dispensed with without inconvenience; but it is vitally important to ascertain whether we are unknowingly taking *poison* in our daily food and drink. We are well aware of the baneful effects of the wine-cup and the intoxicating draught upon the unfortunate, if not criminal, inebriate; but the very contemplation of 'death in the pot' is horrible, from the fact that its victims may be chosen from the most virtuous, moral and innocent of our species.

Having demonstrated the existence of lead to a dangerous extent in soda-water, and traced many cases of colic directly to its influence; having also presented statistics to show the great prevalence in this city, not only of colic, but a variety of other affections which have been known to be caused by lead, but are here often met with in persons who are not in the habit of drinking soda-water,—if these diseases are attributable to lead poisoning, it becomes necessary to discover some other source of lead that is commensurate with the extent of the diseases, which is no less than the entire population throughout the city.

Knowing that the water-works of the city consist of a large

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reservoir, into which the water is raised from the river by means of a steam engine, and thence conducted through *iron mains* along the middle of the streets, with branches of *leaden pipe* leading into the houses, there was good reason for suspecting that this water might be more or less affected by lead. The next thing to be done was to examine this water, to see whether lead could be detected in it. Professor Riddell having kindly given me access to his laboratory, I did so as carefully as I could, (though, I confess, rather rudely), and succeeded in convincing myself, at least, of the presence of lead in our hydrant water. I experimented on hydrant water, water direct from the river, cistern water, fresh rain caught in a bowl, hydrant water clarified with alum, the same saturated with carbonic acid gas, various specimens of soda-water, bottled ale, wines and cider. The test relied on was *sulphuretted hydrogen gas*. The introduction of this delicate test produced no change in the pure rain water, the cistern water, the wines, ale or cider, and extremely slight in the clarified water. All the specimens of soda-water were changed to a dark brown color, more or less distinct in proportion to the length of time the fount had been up and the length of lead tube used. A specimen from the most frequented fountain in the city, that had a leaden tube of only about six feet, and was in constant use, still readily displayed slight discoloration when tested with the sulph. hydrogen gas.

Water taken from the hydrant in the laboratory, having a lead pipe of some sixty or seventy feet, leading from the iron main in the middle of the street, soon became discolored by the sulph. hyd. gas, and, in the course of eight or ten hours, threw down a very dark, heavy deposit. I experimented on a portion that was first drawn in the morning, after being exposed to the lead pipe all night. After allowing ample time for a deposit to settle down, I decanted the greater part of the supernatant liquor, and evaporated the remainder to dryness in a plate. This deposit was then gently boiled in nitric acid and diluted with pure rain water, and then carefully filtered. The iodide of potass and other tests were applied to the filtered liquor, with different results. In some of the experiments (for I made a number), the presence of lead was quite apparent, whilst in others it was not. A portion of this filtered liquor was evaporated nearly dry, then

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mixed with a little carbonate of soda, so as to form a pill or paste, and, being placed on charcoal, was heated under the blow-pipe. In some instances, a yellowish stain was produced on the charcoal, much like that arising from lead, and in one or two, I thought I recognised globules of lead, but I do not feel authorised to assert this positively. My experiments were on a small scale, and I may have been deceived, but I saw enough to greatly strengthen my suspicions of the presence of lead in hydrant water. The variable results of my experiments were doubtless due to the different condition of the water at different times, according to the length of its detention in the lead pipe, and, perhaps, the length of time the pipe had been in use. The water taken directly from the river also threw down a heavy, dark deposit, on the introduction of the sulph. hydrogen gas; but, on carrying the experiment farther, as with the hydrant water, I did not discover the like evidences of lead. The dark discoloration of this water is doubtless owing to the presence of iron, and perhaps other metals, which are known to exist in the Mississippi water.

To test the action of water on lead, I tried the following experiments:—I put bright plates of sheet lead into two covered vases, one containing water from my cistern, the other, water direct from the river, it being first allowed to settle spontaneously. Fourteen days afterwards, these plates were found to be slightly oxydised, as was evidenced by the dull color. I then introduced the sulph. hydrogen gas into a tumbler full of each vase. The water was at once turned dark, though on the following day there was found but a very slight deposit. The plate in the cistern water was most oxydised, but the river water was darkest, doubtless from the presence of iron. This corresponds with the known fact that the purest water acts most powerfully on lead.

Having completed these experiments, I submitted my observations to the Physico-Medical Society, in a paper which was read on the 14th September: whereupon, on motion of Professor Jones, a committee was appointed to investigate the subject by witnessing a repetition of my experiments. The committee consisted of, Professors Jones and Riddell, and Dr. Axson, and the following is their report at a subsequent meeting:—

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'The Committee appointed on the 14th of September, to examine the facts set forth in the paper of Dr. Fenner, read to the Society, on the subject of *poisoning from lead*, beg leave to report, that they have repeated the experiments on soda, hydrant and river water, in company with Dr. Fenner; and without repeating the processes they have followed, have arrived at the following conclusions:

'1st. That they have carefully tested the various specimens of soda water procured from different fountains in the city, in all of which they readily found evident traces of lead. These investigations have been, in their opinion, abundantly sufficient to confirm the opinion of Dr. Fenner, that lead exists in all the soda water transmitted through leaden pipes, and in adequate quantity to produce the delcterious effects by him thereto attributed.

'2d. They have also frequently examined the hydrant water in the Chemical Lecture Room, which is transmitted through about seventy feet of leaden pipe. During the greater part of these investigations, and while the water was freely drawn and in constant use, they have not been able to detect the slightest traces of lead, by the most delicate tests. Traces of lead have been detected, however, by Drs. Riddell and Axson, in company with Dr. Fenner: that, under certain circumstances, traces of lead are to be found in hydrant water, though whether in sufficient quantity to produce the imputed effects is, in their opinion, not satisfactorily established.

'3d. The Committee having repeatedly examined the water taken immediately from the river, for indications of the presence of lead, unanimously concur in asserting, that on no occasion has its existence been demonstrated; the dark precipitate produced by sulphuretted hydrogen, both in this and in the hydrant water, having been effected by its action on the suspended sesqui-oxyde of iron. The Committee do not, therefore, concur in the suggestion of Dr. Fenner, that lead exists in an appreciable quantity in ordinary river water.

'While compelled to disagree with the author of the paper read to the Society, in the greater number of his conclusions, the Committee cannot refrain from expressing their approval of these investigations, which, it is to be hoped, will be followed up, not only by the gentleman alluded to, but by the members of the Society. Dr. Fenner has certainly established the deleterious character of soda water, for which he is entitled to the thanks of the Society and of the community at large, for whom it would be demanding a just protection by having proper municipal ordinances adopted, prohibiting henceforward, under heavy penalties, the transmission of carbonated water through leaden pipes.

[Signed] 'JAMES JONES,
A. FOSTER AXSON,
'*New Orleans, Nov. 2d*, 1850.' J. L. RIDDELL.'

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It appears, from this report, that the presence of lead in *soda-water* was placed beyond doubt, and that traces of lead were detected by two of the committee; the other member, Dr. Jones, being absent at the time. All agreed, 'that, under certain circumstances, traces of lead are to be found in hydrant water, though whether in sufficient quantity to produce the imputed effects is, in their opinion, not satisfactorily established.'

As has been stated before, the susceptibility to the poisonous action of lead in different individuals is extremely variable. Tanquerel says—

'Interesting as it would be to determine the quantity of lead necessary to induce colic by absorption, it can only be said that it is different in each individual, and that this quantity has been found to vary from *one* to *one hundred and forty grains*.'

In the New York Medical Gazette for November 2d, 1850, may be found an interesting letter from Mr. Herapath, of Bristol, to the editor of the London Times, from which I extract the following remarkable case, to show the very small quantity of lead required to do a great deal of mischief. Dr. H. says:—

'Some time since, in the west of England, a river, the water of which had been used from time immemorial by the inhabitants of a village on its banks, without injury, was found to effect their health; symptoms of indigestion abounded, with loss of flesh and appetite; and there were some few cases of colic. They believed that it arose from the use of the river water, as those who used water drawn from a spring at some distance were not so affected. I was requested to analyze the river water, and found in it 1,500,000 part of carbonate of lead, which arose from a mine worked at the distance of three or four miles from the village, on the other side of a range of limestone hills. Your paragraph leaves it doubtful whether 1¼ grains of lead taken in a week would be injurious. In the case I relate, there would be only one grain of lead in nine gallons of water, and yet the health of the neighborhood was seriously affected.'

The editor of the NewYork Medical Gazette says:—'Allowing that the individuals poisoned by this water consumed as much as a gallon per day, or swallowed, in some form or other, the lead contained in that quantity of water, it follows that they would have taken no more than about *three-quarters of a grain* of lead per week! This infinitesimal quantity, according to Mr. Herapath, was quite sufficient to endanger health.' He says Mr.

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Herapath has done *good service* by his investigations, and also mentions that Mr. Reid, of the New York Hospital, has recently called public attention to the dangerous use of lead by confectioners as a coloring matter for their candies, sugar-plums, etc., but thinks it more probable that the sugar of which these articles are made is poisonous, by reason of the lead used in refining it.

Dr. Watson, in his *Lectures on the Practice of Physic*, gives the case of a woman who presented the dropped wrists, colic, costiveness, etc., which excited the suspicion of lead-poisoning, but it was a long time before any exposure to lead could be discovered. At length, however, it was ascertained that, in the summer previous to her attack, her sons had amused themselves making bird-cages, and painting them green, in the room where she dwelt. This was considered entirely satisfactory; and Dr. Watson says, 'the case altogether was a very neat one.' On the opposite extreme, he mentions the case of a painter who suffered an attack of colic for *the first time*, after having followed the business for *nineteen years!*

Numerous instances might be adduced to show the danger of using this poisonous metal, but they would swell this report to too great a length. If I have not succeeded in demonstrating the presence of lead in the hydrant water of New Orleans, my rude experiments have, at least, rendered it very probable, and the additional circumstances which I shall now mention will, perhaps, remove all doubt on the subject.

Our hydrant water is conveyed through connected tubes of *iron and lead;* and Dr. Dana cites a case that was reported to the British Association, in which water conveyed through lead pipe into a leaden tank had been used sixty years without corroding the tank or producing sickness, but when the conveyance was extended some distance by the addition of iron pipe, the tank soon became corroded, and nearly every person that used the water was made sick. Dr. Dana, and others, have shown conclusively that the action of water upon lead is greatly increased by the connection of iron. This is owing partly to galvanic action, and partly to the decomposition of the oxyde of iron, that is readily formed by the action of water, and is, necessarily, washed along into the leaden pipe.

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In the original edition of the *London Lancet* for February and March of the present year, may be found some important experiments on '*water, and its impurities*,' performed by the ANALYTICAL SANITARY COMMISSION, a branch of the General Board of Health for the city of London. These experiments are of the highest scientific order, and expose the fallacy of certain views which are very generally entertained in regard to the action of different kinds of water on lead. I regret that I cannot make room for some of these experiments, as well as the general conclusions that were arrived at. Some of these are quite at variance with Dr. Christison's views, who contends that the alkaline bases and their chlorides do not act upon lead. On the contrary, the Board says —

'That a solution of the caustic alkalies, soda and lime, act in a most energetic and destructive manner on lead;' and

'That while chloride of calcium exerts little or no effect, chlorine and chloride of sodium act very decidedly.'

The general tenor of this report is to disapprove of lead, either for *tanks or pipe*.

I have not been able to obtain a recent analysis of Mississippi river water. In a communication addressed by Professor Riddell, of this city, to the *Association of American Geologists and Naturalists*, in 1846, I find the following remarks on the subject:

'The saline and other dissolved impurities contained in the Mississippi river water, doubtless vary very much at different seasons of the year, dependant upon the particular tributary river which happens to have the ascendency. On the 20th of August, 1846, the solid residue from the evaporation of carefully-filtered water was, by weight, 1 to near 10,000 of the water; but, I presume, the mean proportion, the year through, would be found considerably less. Besides organic matters, this residue was found to contain chlorine, lime, magnesia, soda, carbonic acid, sulphuric acid a trace, oxyde of iron a trace.'*

Now, the experiments of the Analytical Commission tend to prove that water, with such ingredients, would act readily upon lead. Notwithstanding these ingredients, Professor Riddell says, this water is comparatively soft, and works well with soap.

* De Bow's Commercial Review, December, 1846.

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I have examined many pieces of lead pipe that had been used in our water-works, and always found it coated on the inside with a whitish crust. On this point, Dr. Dana says: 'It must never be forgotten that a lining coat in a lead pipe is to be taken as evidence of undoubted action of the water. A pipe coated, is a pipe corroded.'

These facts, taken in connection with the numerous instances of disturbance of the stomach and bowels, felt by persons when they first commence to use our hydrant-water, afford additional testimony to the presence of lead.

I cannot, on this occasion, say anything about the various other exposures to lead poisoning in this city, in the ways of food, drinks and utensils. They are doubtless numerous, and will continue to exert their deleterious influences until attention is properly drawn to them. Nor can I say more of our *cistern waters*, than that there is a large amount of copper used in connection with them. I have not tested them for this metal.

Having said thus much in regard to the probable existence of a dangerous amount of lead in our hydrant-water, it affords me much pleasure to state that the clarification of this water with *alum* affords an admirable protection against its injurious effects. This cheap substance, *alum*, is at the same time a *corrective, an antidote, and the best of remedies* for lead colic.

We learn from the 'Report of the General Board of Health on the Supply of the Water to the Metropolis,' (London), which has been received and examined since the foregoing experiments were made, that Professor Clarke of Scotland has discovered that *simple filtration* prevents the poisonous action of lead in water containing it; in other words, removes the lead, as I presume. To test the truth of this fact, so important, if true, I have this day (6th June, 1851,) performed the following experiments at our Medical College, in the presence of Professors Jones, Nott and Riddell.

EXPERIMENT 1.—Water from a leaden cistern, or tank, situated near the roof of a private dwelling, into which rain water from the roof is collected, and thence conveyed below through lead pipe, for all domestic purposes, such as drinking, cooking, bathing, etc., was submitted to sulphuretted hydrogen gas.—

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Result: The water, which was very transparent, at once became of a brown color, indicating the presence of lead.

Exp. 2.—Some of the same water was now filtered through filtering paper, and then exposed to the sulph. hydrogen gas.—*Result: No change of color.*

Exp. 3.—Into the same water sufficient alum was dissolved to give a slight taste, and then it was exposed to the same gas.—*Result:* A very slight change of color.

Remarks.—Strange to relate, this family, one of the most respectable in the city, and consisting of twelve or fifteen members, have been using this water for all purposes, as above stated, for nearly two years, without the occurrence of any marked case of lead poisoning. About twelve months ago the lady of the house had a painful bowel complaint, which was thought to be somewhat choleraic, but no connection with lead was suspected. This serves to show how long a whole family may use water impregnated with lead without any perceptible injurious effects.

To test the effects of filtration and alum on soda-water containing lead, I this morning also tried the following experiments:—

Exp. 4.—I got a bottle of soda-water from a fountain in a retired part of the city. The fount had been in use *eight days;* it would contain about fifteen gallons; the lead pipe was about twenty feet. The woman who kept it said that the fount generally lasted *three weeks.*

This water, very transparent, was immediately turned dark on the introduction of the sulph. hydrogen gas, showing the presence of lead.

Exp. 5.—A portion of this water was now carefully filtered, and then exposed to the gas.—*Result:* No change of color.

Exp. 6.—Alum was added to a portion of this water, sufficient to make it taste. On exposing this solution to the sulph. hyd. gas, a very slight change was produced, not near so great as before the alum was added.

Remarks.—The Irish woman who keeps this fountain told me she drank three or four glasses of this water every day—that she never had colic, but usually enjoyed good health. She

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looked pale, and said she had a very poor appetite. Her gums were somewhat blue, and her teeth were very dark next to the gums.

To test the power of the filter and alum still farther, I performed the following experiments:—

Exp. 7.—A little acetate of lead was dissolved in each of the above waters—the cistern and the soda; the solutions were then filtered and exposed to the sulph. hyd. gas.—*Result:* The fluid was turned dark immediately, showing that the filter *had not removed the lead.*

Exp. 8.—To another portion of the solution of acetate of lead, alum was freely added, and the fluid was then exposed to the gas. —*Result:* It was at once turned dark.

Exp. 9.—Having filtered a portion of the soda-water, and then proved the *absence* of lead, I then threw in a considerable amount of the *carbonate of lead*, and, on applying the gas, it became dark; but when a portion of this last water, with the carbonate, was filtered and then exposed to the gas, *no change was produced.*

Conclusions.—From the above experiments it may be concluded, 1st, That *simple filtration* does afford complete protection against the *carbonate of lead* in water, but not against the *acetate:* 2d, That alum affords a very good, though not perfect, protection against the *carbonate*, but less against the *acetate.* We may therefore presume that the carbonate is held chiefly in *suspension*, whilst the acetate is completely *dissolved*, and passes the filter.

It would thus appear that, by proper attention to these two simple measures, *both so convenient and so cheap*, our citizens may be protected against the injurious effects of lead, if it be present in our hydrant water; and even if it be not present, the water would be cleared of other impurities and rendered much more palatable and wholesome. I would, therefore, respectfully suggest to our citizens the importance of providing themselves with the *alum or the filter, or both.* I am aware that both are used to a considerable extent in this city, and have doubtless done much good, but I would urge that they are *indispensable to safety.*

To do any thing like justice to this important subject, would

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require an essay of at least a hundred pages, which could not be admitted into this volume, if I had the time and ability to prepare it as it should be done. The municipal authorities should take it in hand and have it thoroughly investigated; for on them rests the responsibility of protecting the community against all known causes of disease and death. They should appoint a scientific commission to examine the food and drinks used by all classes of citizens, with a view to the removal of all deleterious agencies, or at least of putting the unwary on their guard, so that they may know how to look out for their own safety.

It affords me much pleasure to know that my own crude researches and observations, published in the first volume of these Reports, have done some good in various quarters by calling attention to the danger of lead, and causing it to be looked for and discovered, where it had not been previously suspected to exist. The letter of Dr. Ashbel Smith, in this volume, will show how he was led to discover it in Texas; and Dr. Gardiner, of Galveston, informed me that after he advised the discontinuance of cistern water at the Tremont Hotel, where many cases of colic had existed, no new cases occurred among those who observed his instructions.

Dr. T. M. Logan, late of this city, writes me from California, that seeing a notice of my report on the epidemic colic of this city, in 1849, gave him a clue to an obscure case of lead-poisoning that he had then under treatment, and enabled him to afford prompt relief.

Many persons in this city have told me that they had been enlightened to the same effect, by seeing in the newspapers a notice of my views.

Among the reports from Alabama, in this volume, it will be seen that Dr. Wooten, of Lowndsborough, mentions a colic that prevailed to a considerable extent in his neighborhood, and that he traced several cases to the use of water from lead pipes, whilst in many others he could not discover any exposure to lead. If he will continue the search, he may yet find it in some article of food, or cooking utensil.

In the 'Ohio Medical and Surgical Journal,' for March, 1851, may be found a paper by Dr. Bidwell, of Keene, Ohio, on an epi-

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demic colic that was prevailing in that neighborhood, and went by the vulgar names of *Dutch bellyache*, *dry cholera*, etc. Dr. B. discovered that this disease proceeded from lead-poisoning, caused by a new cheap earthenware that was made in the neighborhood, and had recently come into use.

Dr. S. L. Dana, in the appendix to his translation of Tanquerel's work, shows plainly that the waters of Boston and Lowell act upon lead, rendering it unsafe for service pipe. Dr. Charles T. Jackson, Assayer to the State of Massachusetts, gives his testimony to the same effect.

The last paper I have seen on the subject is by Dr. George H. Kingsbury, of New York, and may be found in the 'New York Journal of Medicine,' for May, 1851. In this paper, Dr. Kingsbury reports four remarkable cases of disease, which he traces fairly to the use of *Croton water*, from the hydrants of New York. These cases are precisely such as are of frequent occurrence in this city. Dr. Dana and others had detected lead in the Croton water of New York, and it is not at all unlikely that there exist many obscure cases of sickness about that city, as well as this, which originate from slow lead-poisoning, and has not yet been suspected.

Having shown to Dr. Samuel A. Cartwright, of this city, the paper that I read before the Physico-Medical Society in September last, he addressed me the following letter, which I deem worthy of insertion in this place.

Dr. FENNER:

Dear Sir—I have read the manuscript you were so kind as to favor me with, with much interest. 'What in me was dark, you have illumined'—in regard to a debility I have felt in my arms ever since I have been drinking the soda and hydrant water of this city, not knowing that it was the effects of poison until I read your paper. I did not know I was drinking water poisoned with lead until I read your paper. That lead-water, or water coming through leaden tubes is poisonous, is a fact beyond controversy. You have labored to prove it by your experiment with sulphuretted hydrogen gas, and by citing cases of the deleterious effects of its use. But this is supererogatory, because the poisonous property of lead-water is a fixed fact. This question was settled before Tanquerel wrote. Arthralgy, encephalopathy, neuralgia, and a great many kindred ailments, besides colica pictonum, so common of late years, are the natural effects of drinking water out of leaden tubes. The citizens of New Orleans will owe much to you for pointing out the cause of half the ills they are subject to. If they do not remove it, by wise legislation, it will be their own fault. Our great city is impeded in her march to the first station among the greatest cities in the world only because she has not pressed science into her service. While ignorant pipe-lay-

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ers are permitted to kill a large portion of her citizens with lead-water, and cripple the balance with rheumatism, neuralgia and arthralgia, New Orleans will have to bear the odium of being in an unhealthy location. The magic wand of science can easily expel that delusion.

Very truly, your obedient servant,

SAMUEL A. CARTWRIGHT, M.D

New Orleans, October 12th, 1850.

I will close this report with the following remarkable case of lead-poisoning, which will show the various affections that may spring from this cause, as well as the difficulties sometimes presented in discovering it.

'*A Remarkable case of poisoning with Lead, extending over a period of nearly four years.* By EDWARD MURPHY, M.D., of New Harmony, Indiana.

'I submit the following case to the profession, in the hope that it may lead to further investigation into the causes of neuralgia, convulsions, cachexia, paralysis, amaurosis, mental derangement, etc.; believing that, in many instances, these affections, with other anomalous phenomena, may depend on a latent poison either taken into or generated within the body. I am further urged to its publication by my patient, who is of the opinion, that many cases of confirmed bad health among mercantile men, especially in small towns, may have a like insiduous origin.

'In giving the history of cases of indisposition, extending over a long period of time, there must necessarily be a good deal of repetition in describing the state of the patient from time to time; but as I am strongly impressed with the belief that the above-named affections may originate from a poison in the system, I have been particular in giving the condition of the patient, throughout the entire period, at different times.

'Mr. R——, merchant, aged 42, of medium height, and rather stout habit of body—of bilious temperament, and sound intellect—has always enjoyed good health, and had no hereditary liability to disease; has always been temperate, and a close, but active, business man. During September, 1843, had a slight attack of autumnal fever of short continuance, and throughout the following winter had been often afflicted with pains in his abdomen, which disturbed him a good deal.

'About the last of February, 1844, was confined to his bed for several days, with excessive, intermitting abdominal pain, and obstinate constipation of his bowels, but, he thinks, without fever, and was treated by his physicians for an attack of acute peritonitis. The constipation was very obstinate, and only yielded, after several days, to very large doses of medicine. But I consider it impossible that

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acute inflammation within the abdomen should have continued so long as this attack did, without producing some organic change among the abdominal viscera.

'After an imperfect recovery, Mr. R. went to Louisville on business, during the following March, where he was again attacked with the same symptoms—though not quite of the same severity—and was attended by a distinguished physician, who pronounced his disease to be abdominal neuralgia, stating, that it was a rather frequent complaint among mercantile men in that place, and prescribed accordingly. He also gave it as his opinion, that his former attack was the same disease, and not peritonitis. Since that time, Mr. R.'s complaint has been considered neuralgia, and treated as such.

'From that time up to the 22d February, 1846, he has been suffering, almost constantly, with excessive pain in his abdomen, radiating from thence to all parts of his body, often of very great severity; obstinate constipation of his bowels, accompanied often with nausea and vomiting, (the patient attributing the nausea and vomiting to the *very* large doses of opium which he was sometimes obliged to take); was frequently confined to his bed; he lost flesh and strength, notwithstanding a constant good appetite, and had a bloated, though anæmic, countenance. He had very much the appearance of a person in cachexia from malignant disease. There was a dirty yellow color of the skin, with a yellow discoloration of the albuginea oculi, simulating jaundice the whole time. Sometime during this period, he became affected with slight paralysis of the extensor muscles of the fingers of the right hand, with the exception of the index, which rendered him unable to write; his vision became imperfect; there was great mental prostration, approaching hypochondriasis,—indeed, he was totally unable to do business throughout the greater part of this period, from mental imbecility, sometimes being unable to perform the minutest calculation, or to attend his customers, who generally considered him insane; was very irritable the whole time.

'About this time, Mr. R. was attacked with what was thought to be apoplectic fits, having had four or five, and on the 24th I was called in consultation. He was confined to his bed, very pale and feeble; sensible, although very weak in mind; would give an answer in relation to his case, and immediately forget that he had done so; sometimes became alarmed at persons present, and again was much terrified at absent imaginary enemies, who were conspiring against him—a state resembling delirium tremens; speech, faltering and hesitating; sight, defective. His face was frequently affected with choreic convulsions, when he would complain of severe shooting pains through his body, and of which he was in constant dread; tongue, soft and broad; pulse.

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feeble, but almost natural as respects frequency; bowels, constipated; stomach, very irritable; chest, perfectly sound; sounds and rhythm of the heart natural; nothing unusual in the appearance of his urine; although very feeble, would sit up for a short time when desired. Considering it impossible that an individual should have four or five fits of apoplexy in two or three days, without any lesion to the brain, or symptoms denoting such, and on carefully interrogating his family—the physician in attendance not having seen him in a fit—I made out his attacks to be of an epileptiform character, being preceded by the horrid scream of epileptics, accompanied with evident convulsions. I advised opening the bowels by active purgatives, opiates, nourishing diet, blister to the nuchæ, and sulph. quinia, when the bowels were well opened, and took my leave, after assuring his family that I did not consider his present attack to be apoplexy, but probably a part of his old complaint, and gave an unfavorable prognosis.

'Mr. R. remained in nearly the same state, but without another fit, until the 3d of March, when I was again called in and associated in the treatment of his case. By persistence in the above remedies, to which was added wine and brandy, he very gradually recovered to his late state of health. When so far recovered as to be able to sit up, his defective vision became almost complete amaurosis, which continued some time, then gradually disappeared, but was not entirely recovered from; the patient was fully of the opinion that it was caused by the quinia he had been taking, although never more than six grains in twenty-four hours, and with no idiosyncrasy to its action. There was also, at this time, increased paralysis of the right hand, the left also becoming slightly paralysed.

'From the 16th of March, at which time my attendance ceased, up to January, 1847, when he placed himself in my hands for treatment of fistula of the anus, complicated with fissure, he continued to have the same attacks, of greater or less severity, with only short intervals of repose, being nearly worn out with constant suffering and bad health. As opium was his only relief, he generally prescribed for himself throughout the lengthened period of his sickness, except when his attack was unusually severe. After the cure of his fistula, his disease returned with greater severity, and of a more alarming appearance than ever.

'On the 10th of June, in the absence of his regular physician, I was again consulted. Mr. R. was confined to his chamber and almost to his bed, the mere wreck of his former self, scarcely able to sit up, weeping from excruciating pain, and in such a state of mind as to express a wish to commit suicide, and indeed he was afraid he should do so. His face, pale and wan, was marked by the deepest despair, from

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extreme suffering, imploring me strongly for relief; wrists entirely dropped, from complete paralysis — being perfectly helpless, and unable to straighten either hand, unless by the aid of the opposite arm, and requiring all the care of an infant, in being fed, washed, etc., yet a comparatively good grip with his hands. His extremities were dwindled away to the mere sheaths of the muscles; his abdomen seemed to be the centre, as usual, from which his pain radiated, and it was with the greatest difficulty that I could persuade him, after a careful examination, of the non-existence of organic disease there. The slightest touch of the skin over the umbilicus, and indeed over other parts of the body, produced such terrific pain as almost to throw him into convulsions, producing all the effects of an electric shock; while the greatest pressure over the same place gave him no uneasiness, but rather relief: his bowels were always constipated, unless moved by medicine. Was the constipation produced by the large quantity of opium which was taken, or did it depend on paralysis of the muscular tunic of the intestines? There was sometimes vomiting of a greenish watery fluid; tongue flat and broad; pulse very feeble, and more frequent than natural; his cachectic appearance was that of a person in the last stage of malignant disease; appetite comparatively good; his suffering was much more intense during the night than the day, unless relieved by excessively large doses of opium. From the balls of both thumbs, which were much atrophied, excruciating pains would arise, shooting with great severity up his arms and shoulders, to the back of his neck and head; the shoulders were affected with constant pain, especially the deltoid muscles, which also were slightly paralysed. The pain in his lower extremities was also very severe, commencing in the soles of his feet, which were so sore that he dreaded to touch the floor with them, and shooting up the limbs to the lumbar region with dreadful suffering. There was also at this time a new source of suffering — shooting pain through his testicles, of such severity, as almost to produce fainting; indeed, to see him in his suffering, was the most heart-rending sight I ever witnessed, and I was greatly astonished to see how any human being could so long survive so much and such constant misery.

'I stated to Mr. R., which I had done several times before, though not when attending him, that he presented in the strongest light all the symptoms of poisoning with lead, and had it been possible that he could in any manner have been exposed to its influence, I should have no hesitation in attributing all his sufferings and bad health to that cause: but, Mr. R. was a merchant, and in no way liable to be acted upon by lead, or any of its salts, in his business. There were no lead pipes or utensils used about the house; nor had he taken it in any form as medicine during his whole life. The autumn before the com-

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mencement of his sickness, he built a new store and repaired his house, which were painted in the usual manner; and this was the only exposure to the influence of lead to which he could refer. I, however, considered that this could not be the cause in itself, as I thought it impossible that its influence could have extended over a period of nearly four years.

'His case seemed perfectly hopeless, and I firmly believed he would never leave his chamber again alive. As all the remedies recommended for neuralgia had been exhausted without any benefit, and as he had taken so much medicine from time to time, that his stomach gave way almost at the bare mention of it, I felt very much at a loss what to advise. I, however, advised Mr. R. to submit to an alterative course of mercury, as a last resort; giving him to understand that I considered neuralgia, convulsions, and various anomalous affections, might depend upon a cachectic state of the body, from some poison either taken into or generated within it, and preventing its proper nutrition, and which might be controlled or removed by a course of mercury, as constitutional syphilis and malaria often were; at any rate, it was possible it might produce a new action in his system. This he dreaded very much, and offered a great many objections, which I removed; but he declined for the present.

'*June* 17.—To-day Mr. R. consented to take mercury. I gave him a one-gr. blue pill, four times a-day, with an occasional aperient, and continued the opium to relieve his sufferings. I applied blisters over various parts of his spine, which increased his pain so much, that I was obliged to heal them directly. This treatment was continued about three weeks, with an occasional rubbing in of mercurial ointment over his abdomen, when a considerable improvement was manifest. Treatment continued.

'*July* 15.—Was summoned to Mr. R., when I expected another unfavorable turn in his disease had taken place, but was agreeably disappointed in finding him much relieved and improving, and down stairs. The statement which I had before repeatedly made to him, that he presented all the phenomena of poisoning with lead, made a very strong impression on his mind, so much so, that it constantly occupied his mind, and just brought to his recollection that he had been in the habit, for many years, of chewing lead, and that this habit extended so far back that he was unable to date its commencement. Formerly, being very fond of his gun, he frequently took hunting excursions, on which occasion he always had a piece of bullet or shot in his mouth; when in the store, he seldom ever passed by the box containing the shot without putting some in his mouth to chew. But what he most liked, from its agreeable taste, and of which he chewed a great deal,

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was the lead lining of tea boxes; besides, he considered that the pressure of the teeth on the metal enabled him the better to bear his pain. I immediately replied, that the cause of all his suffering and bad health was perfectly clear, and at once assured him that he might yet be a sound man. I at once examined his gums, for Dr. BURTON'S symptom, and found the blue line over four or five teeth. I considered the case fairly made out, and never felt so much rejoiced as at that moment, to think that an individual, after such a prolonged period of suffering and bad health, whom all considered as beyond recovery, and almost in the grave, should, by this discovery, be yet restored to health and usefulness. Not so my patient, however; he was very skeptical of my prognosis, not conceiving it possible that his disease could have originated from what to him appeared so slight a cause. I assured him that his case always appeared a very strange one to me, and I was always astonished to think that a healthy individual, as he had always been, should have been reduced to such a protracted state of bad health, without any organic disease, unless from some evident cause, which had, at last, been discovered; that it was now rendered almost certain, that his first attack — which was considered acute peritonitis — and many subsequent ones, were attacks of lead colic. Further, that his attack of autumnal fever, from which I date the commencement of his disease, had probably produced a debilitated state of the body, rendering it more susceptible to the influence of minute portions of the metal. Also, that nearly every symptom which writers have laid down as indicating poisoning with lead, had in this case been repeatedly and severely manifested; and the only reason why he did not before recover, was the continued renewal of the poison whenever he was present where it could be obtained. Also, that we were now in a fair way of proving it; the cause being discovered, would in future be avoided, and he would continue well. I pointed to the present amelioration of his disease from the treatment he was pursuing, as a favorable indication that it depended on some removable cause, as idiopathic neuralgia of such long standing was seldom benefited by any treatment. From all this, it will be seen that I had to urge a number of reasons to convince my patient of the real nature of his case, but without convincing him. I added acid sulph. aromat. to the former remedies, and by the 1st of August his pains had nearly entirely subsided, his bowels were acting naturally, and he left off medicine, even opium, for the first time since the commencement of his sickness. I ordered splints to his wrists and hands, which gradually recovered their natural state.

'Mr. R. entirely recovered his health in every respect, and has continued well up to the present time, February, 1850, being again a

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strong, *active* business man. *He thinks* that the extensor muscles of his wrists and fingers are not *quite* so strong as before his disease commenced; which is probably true, as muscles which have long been inactive require frequent and strong exercise to recover their proper tone, which cannot be given to these muscles; their function being merely extension, they cannot be exercised to any extent: however, the defect is very slight indeed.

'REMARKS.—1st. In consulting all the authorities within my reach, I have not found a single case having any resemblance to this; yet nearly every symptom described by the various authors I have consulted as belonging to or arising from poisoning with lead, with the exception of apoplexy, which generally terminates the case in death, were all combined in this case, and fully manifested. Indeed, this case would in *itself* afford all the materials for a complete history of the toxicological effects of lead on the human system. It also shows that the effects are the same, whether produced by the metal itself, or its various salts; probably the former is converted into one of the latter, in all instances, before it is absorbed into the system. Further, I think it may be reasonably inferred, from this case, that lead is a cumulative poison; and when once the body has been brought under its influence, very minute quantities are sufficient to keep up its effects. Also, that although the effects of poisoning with lead are very distressing, yet it cannot be considered as very dangerous to life, even when long continued in small quantities.

'2d. We have here additional evidence of the effects of a latent poison, either taken into or generated within the body, in producing and keeping up neuralgia, convulsions, cachexia, mental imbecility, paralysis, amaurosis, etc., showing the necessity of tracing these affections, and various other anomalous phenomena, to causes of this nature, in many instances.

'3d. The beneficial influence of mercury in controlling the effects, or removing latent poisons from the body, was strikingly manifested in this case. In consequence of the low state of the patient, I did not like to venture on a larger dose than the one given, believing it to be more advantageous to introduce the medicine gradually, than to produce a sudden or violent effect, which I considered would only add to his danger. Now, in inflammation, the case is different; this process being certain to damage the part in which it is located, or to destroy life if not checked, we wish to have the influence of the medicine on the system as soon as it can be produced, where the case demands it. It was really curious to see how symptom after symptom gradually gave way from day to day, the patient gaining flesh and strength, and yet the only sensible effect of the medicine ascertainable was an indistinct mercurial fetor of the breath once or twice.

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'4th. This case is very instructive in another point of view,—*the great necessity in all cases of tracing diseases to their causes;* exemplifying the old adage, 'that knowing the disease is half its cure;' for it was only by the frequent repetition that his case resembled the effects of lead on the body, that the patient was brought to the recollection of his almost fatal habit.

'5th. As the great drawback to the progress of the science of medicine is the almost universal tendency amongst its cultivators to draw sweeping generalizations from a single or a few cases, I shall close this too lengthy paper before I indulge *too much* that way; yet a great many beautiful illustrations of disease, and useful reflections, might, in my opinion, be drawn from this single case. I, however, venture to think, that no one in reading the history of this case, its happy termination in perfect and robust health, the patient continuing so up to the present time, can for a moment doubt but that all the extreme suffering and disease before mentioned were rightly attributed to the cause assigned.'—*Western Lancet, July*, 1850.

ARTICLE XI.

REPORT ON THE NEW-ORLEANS CHARITY HOSPITAL.

BY THE EDITOR.

It was intimated in my first volume, that I would publish in this an historical sketch of this great institution, from its foundation to the present time, but as I have not had time to prepare a satisfactory paper of the kind, I must defer it for the present, if not altogether. As there was no session of the legislature last season, there was no call for an annual report from the Hospital. The statistics for the year, however, have all been made out. I shall proceed to present such as relate to the diseases, the number of patients, etc.

I am indebted to Dr. J. C. Simonds for the classified table that follows, which, besides being so definite, occupies much less space than would be required for the long alphabetical catalogue of diseases that is prepared by the clerk of the Hospital. It will be perceived that the number of admissions is larger than was ever known before; indeed, it is steadily increasing every year, and must continue to do so, unless effective measures be

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adopted to check the influx of persons who are not proper objects of charity. The Board of Administrators have recently resolved to endeavor to accomplish this great object; but it remains to be seen whether anything can be done. They have also amended the rules regulating the medical service of the Hospital, and there can be no doubt that if those in attendance will now discharge their duties faithfully, the institution may be of great service to the profession as well as to the sick.

It must not be supposed that the large number (18,746) of admissions were separate individuals; on the contrary, the same persons were admitted a number of times. Indeed, there has hitherto been no restriction, and hundreds, if not thousands, are admitted for the most trivial complaints. It is a wonderful field for medical observation, comprising, as it does, almost every species of human affliction, and specimens of nearly every variety of the human race. Under the operation of the amended rules, the annual reports will hereafter be enriched with valuable statistics of surgical operations and obstetrical cases, which have been heretofore too much neglected.

The necessity for an almshouse and a lazaretto begins to be strongly felt, and it is hoped they will be established by the city authorities before long. A large general hospital, like the Charity, is not a fit place for *incurables* and orphan children who are not sick; nor should *ship fever* and other contagious diseases be admitted. Without further remark, I will present the tables.

☞ All the terms used in the Alphabetical list of the Annual Report have been scrupulously preserved in this classified table, which therefore presents synonyms and other improper terms. Cholera being epidemic in the city during March, November and December, the cases reported in the hospital during these months have been separated and placed in Class I.

This Table presents data for important and interesting investigations, which, however, cannot be entered upon at present.

J. C. SIMONDS, M.D.

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A CLASSIFIED TABLE OF THE ADMISSIONS, DISCHARGES AND DEATHS in the CHARITY HOSPITAL, for the Year 1850.

Arranged by J. C. SIMONDS, M.D., *from the Annual Report.*

DISEASES.	Admitted Total	Blk	Discharged.	Died.
TOTAL	18476.	53	15989.	1884
Error	6	..	7	
Specified	18470	53	15982	1884
A. Zymotic diseases.....	13865	15	11894	1199
B. Sporadic diseases ...	3235	28	2795	557
C. External causes.....	1370	10	1293	128
A.				
I. Epidemic diseases ..	412	4	75	292
II. Endemic " ..	13412	11	11783	901
III. Monoxysmal " ..	41	..	36	6
B.				
IV. Of Variable seat ...	417	4	395	50
V. " Nervous system,	167	2	109	75
VI. " Resplratory "	615	3	377	268
VII. " Circulatory "	59	2	38	27
VIII. " Digestive "	541	1	474	95
IX. " Urinary "	29	1	18	9
X. " Males	28	..	30	3
XI. " Females	268	2	213	14
XII. " Locomotive syst.	464	4	434	7
XIII. " Integumentary "	504	9	571	7
XIV. " Senses	140	..	134	
XV. Old age	3	..	2	2
XVI. Still-born	—	—	—	—
C.				
XVII. Casualties	505	6	488	56
XVIII. Exopathic	106	2	110	5
XIX. Esopathic.....	749	2	671	59
XX. Treatment	10	..	24	8
CLASS I.				
Cholera	412	4	75	292
CLASS II.				
Cholera	312	3	114	238
" morbus	3	..	1	
Diarrhœa	851	2	724	183
Dysentery	414	1	264	162
Fever, ephemeral	83	..	90	
" bilious	80	..	101	3
" intermittent	7889	2	7563	
" remittent	2276	2	1876	26
" continued	97	..	99	3
" congestive	30	1	9	30
" " intermittent	10	..	1	7
" " remittent	4	..	....	6
" malignant intermit.	34	..	2	23
Carried up.....	12060	11	10847	688

DISEASES.	Admitted Total	Blk	Discharged.	Died.
Brought up	12060	11	10847	688
Fever, malig. remit.,	8	..	2	11
" continued	1	..	..	1
" yellow	9	..	6	4
" typhus	208	..	162	34
" " congestive,	4	..	1	2
" typhoid	1043	..	701	149
" ataxic	4	..	..	6
Catarrh	47	..	44	
Erysipelas	25	..	19	4
Dengue fever	1	..	1	
Cholera infantum ..	2	..	..	2
TOTAL	13412	11	11783	901
CLASS III.				
Whooping cough	2	..	1	
Measles.....	1	..	1	
Scarlatina	3	..	4	
Variola confluens ..	19	..	10	6
Varioloid	15	..	19	
Parotitis	1	..	1	
TOTAL	41	..	36	6
CLASS IV.				
Anemia	27	..	19	13
Plethora	..	..	1	
Scorbutus	8	2	20	
Cachexia, scorbutic,	1	..	.	
Tabes mesenterica ..	3	..	..	4
Marasmus	4	..	..	4
Debility.....	119	1	115	8
Dropsy	11	..	6	5
Œdema of feet.....	19	..	22	
Anasarca	7	..	3	3
Hemorrhage	..	..	1	2
Abscess	154	..	152	3
" of perineum .	2	..	3	
Furunculi	19	..	21	
Phlegmon of hands..	5	..	4	
Paronychia	17	..	15	
Gangrene	10	1	3	7
" hospital....	1	..	1	
Cancer	2	..	2	
Scrofula	5	..	5	1
Adenitis	2	..	1	
Enlarged axil. glands	1	..	1	
TOTAL	417	4	395	50

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A CLASSIFIED TABLE OF DEATHS, ETC.—*continued.*

DISEASES.	Admitted. Total	Blk	Discharged.	Died.
CLASS V.				
Apoplexy	7	..	..	8
" serous	1	..	..	1
Congestion of Brain	15	..	1	15
Cerebritis	8	..	1	8
Arachnitis	1	..	2	
Meningitis, cerebral,	1	..	..	1
Phrenitis	1	..	..	2
Encephalitis	3	..	..	2
Hydrocephalus	1	..	..	1
Dementia	7	..	9	
Mania	3	1	2	1
Hypochondriasis	2	..	1	
Melancholia	4	..	4	
Cephalalgia	35	..	30	
Hemicrania	2	..	1	
Neuralgia	14	..	15	
Tic douloureux	..	..	1	
Chorea	1	..	1	
Epilepsy	14	..	13	6
Convulsions	4	..	1	3
Tetanus	4	..	1	1
" traumatic	11	1	3	11
Trismus nascentium	4	..	..	4
Hemiplegia	2	..	3	
Paraplegia	6	..	6	1
Paralysis	11	..	10	4
Softening of Brain	1	..	1	6
Vertigo	3	..	3	
Meningitis, spinal	1			
TOTAL	167	2	109	75
CLASS VI.				
Tonsilitis	4	..	4	
Amygdalitis	1	..	1	
Ulceration of throat	2	..	1	1
Laryngitis	7	..	8	
Phthisis Laryngea	2	..	..	1
Bronchitis	122	..	105	7
Pleuritis	58	..	52	5
Pleuralgia	1	..	2	
Pleurodynia	9	..	8	
Pleuro-pneumonia	13	..	9	6
Pneumonia	64	..	48	23
" typhoid	4	..	1	3
Congestion of lungs	1			
Hydro-pneumothorax	1		..	1
Pleuritic effusion	1			
Emphysema	1	..		
Hemoptisis	4	..	3	1
Phthisis	316	3	112	218
Lungs, gangrene of	1	..	..	1
Asthma	3	..	3	1
TOTAL	615	3	377	268

DISEASES.	Admitted. Total	Blk	Discharged.	Died.
CLASS VII.				
Varices	3	..	1	
Phlebitis	2	..	2	
Angioleucitis	1	..	..	1
Aneurism, ruptured	1	..	..	1
Arteries, ossified	1	..	..	1
Imperfection of aorta	1	..	1	
" mitral valve,	3	..	2	
Carditis	1			
Endo-carditis	6	1	9	2
Heart, hypertrophy	23	1	11	14
Endo-pericarditis	1	..	1	1
Pericarditis	15	..	9	7
Heart, palpitation of	1	..	2	
TOTAL	59	2	38	27
CLASS VIII.				
Gastritis	90	..	92	1
Gastro enteritis	33	..	15	19
" duodenitis	1	..	1	
Enteritis	20	..	19	2
Ileus	1	..	..	1
Enteralgia	6	..	5	
Constipation	60	..	63	
Colic	53	..	65	1
" Painters'	84	1	68	1
Gastralgia	22	..	23	2
Gastrodynia	2	..	1	
Gastric disease	3			
Dyspepsia	15	..	18	
Stomatitis	3	..	3	
Ulceration of mouth	2			
Glossitis	1	..	..	1
Œdema glossitis	2			
Mesenteric fever	1	..	..	1
Hematemesis	1	..	1	1
Hernia	5	..	6	
" humoralis	1	..	1	
" inguinal	5	..	1	
" strangulated	3	..	1	1
Peritonitis	10	..	4	5
Pneumo-peritonitis	1	..	..	1
Ascites	41	..	26	38
Hepatitis	34	..	29	8
Icterus	32	..	27	6
Liver, abscess of	1	..	..	3
" congestion of	3	..	1	
" cirrhosis	..	..	..	1
Splenitis	3	..	3	
Spleen, rupture of	1	..	..	2
" enlarged	1	..	1	
TOTAL	541	1	474	95

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A CLASSIFIED TABLE OF DEATHS, ETC. — *continued.*

DISEASES.	Admitted Total	Admitted Bk	Discharged.	Died.
CLASS IX.				
Diabetes	1	--	1	
Gravel	3	--	3	
Albuminuria	5	--	4	4
Hematuria	2	--	--	1
Urinary abscess	1	1	--	1
Dysury	1	--	1	
Suppression of urine	1	--	1	
Retention "	4	--	3	
Kidneys, ruptured	1			
Nephritis	6	--	4	1
Cystitis	4	--	1	2
TOTAL	29	1	18	9
CLASS X.				
Blennorrhagia	3	--	1	
Urethritis	1	--	1	
Urethra, stricture of	6	--	8	3
" fracture of	--	--	1	
Penis, cancer of	1	--	1	
Orchitis	11	--	12	
Hydrocele	6	--	6	
TOTAL	28	0	30	3
CLASS XI.				
Mamma, enlarged	1			
Amenorrhœa	9	--	8	
Dysmenorrhœa	3	--	1	
Menorrhagia	2			
Uterine hemorrhage	1	--	1	
Leucorhœa	1	--	1	
Fluor albus	1	--	1	
Vaginitis	1	--	1	
Vesico-vaginal fistula	1	--	1	
Uteri prolapsus	5	1	4	
Hysteralgia	1			
Hysteritis	5	1	5	1
Metritis	1	--	2	1
Metro-peritonitis	1	--	--	1
Uterus, disease of	2			
Ovarian dropsy	1	--	1	
Hysteria	5	--	4	
Chlorosis	--	--	1	
Pregnancy	219	--	83	
Parturition	--	--	93	
Abortion	1	--	4	
Puerperal mania	--	--	1	1
" enteritis	2	--	--	4
" peritonitis	1	--	1	1
" fever	4	--	--	5
TOTAL	268	2	213	14

DISEASES.	Admitted Total	Admitted Bk	Discharged.	Died.
CLASS XII.				
Rheumatism	408	4	392	3
Arthritis	7	--	3	
Arthralgia	1	--	1	
Hydrarthrosis	1	--	1	
Hydrops articuli	4	--	6	
Synovitis	1			
Anchylosis, elbow	2	--	1	
Coxalgia	3	--	1	
Sciatica	6	--	6	
Spine, disease of	--	--	--	1
Osteitis	1	--	2	
Exostosis	3	--	1	
Osteo-sarcoma	--	--	--	1
Necrosis	13	--	8	1
" Vertebra	2	--	--	1
" Maxilla	1	--	1	
Lumbago	10	--	10	
Torticollis	1	--	1	
TOTAL	464	4	434	7
CLASS XIII.				
Ulcer	421	7	499	1
Anthrax	5	--	3	1
Carbuncle	9	--	7	4
Erythema	1	--	1	
Eczema	4	--	2	
Herpes	3	--	3	
Scabies	14	--	13	
Impetigo	1	--	3	
Porrigo favosa	2	--	2	
Prurigo	4	--	2	
Psoriasis	2	--	2	
Elephantiasis	1	--	1	
" Græcorum,	2	--	1	1
Rupia squamosa	7	2	4	
Ecchymosis	1	--	1	
Hemorrhoids	20	--	22	
Condyloma	1			
Fistula in ano	5	--	5	
Artificial anus	1			
TOTAL	504	9	571	7
CLASS XIV.				
Cæcitas	4	--	2	
Amaurosis	2	--	2	
Cataract	2	--	3	
Iritis	12	--	13	
Keratitis	4	--	1	
Corneitis	3	--	4	
Carried forward...	27	--	25	—

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A CLASSIFIED TABLE OF DEATHS, ETC.—*continued.*

DISEASES.	Admitted. Total	Blk	Discharged.	Died.
Brought up	27	--	25	—
Cornea, ulcerated.....	4	--	3	
" opacity of.....	1	--	2	
Sclerotitis	3	--	3	
Conjunctivitis	59	--	55	
Blepharotis	5	--	4	
Opthalmia	28	--	26	
Staphyloma.....	1	--	3	
Albugo	1	--	1	
Strabismus	1	--	1	
Eye, tumor of.....	1			
Iris, hernia of.....	--	--	1	
Sclerotitis hernia	1	--	1	
Otitis	6	--	5	
Otorrhœa	--	--	1	
Epistaxis	--	--	1	
Odontalgia	2	--	2	
TOTAL....	140	--	134	—
CLASS XV.				
Old age	3	--	2	2
CLASS XVI.				
Still-born	—	—	—	—
CLASS XVII.				
Fracture, skull	5	--	2	3
" maxilla.....	5	--	6	
" clavicle.....	9	--	11	
" humerus	8	--	3	
" radius	8	--	11	
" " and ulua.	4	--	7	
" ribs	2	--	3	
" thigh	4	--	10	
" patella .....,.	5	--	6	
" fibula	4	--	3	
" tibia	17	1	29	
" " and fibula.	3	--	4	
" condyle	--	--	1	
Luxation of shoulder ..	3	--	1	
Dislocation " ..	5	--	2	
" humerus...	5	--	5	
Luxation " ..	5	--	4	
" sternum	1	--	1	
" clavicle.....	2	1	2	
Dislocation "	1	--	1	
" elbow.....	--	--	1	
Carried up	96	2	113	3

DISEASES.	Admitted. Total	Blk	Discharged.	Died.
Brought up	96	2	113	3
Luxation, elbow	1			
Luxation, radius	1	--	1	
Dislocation, hip	2	--	1	
" thigh	2	--	1	
Injury of head	3	--	3	2
Concussion "	1			
" brain	3	--	2	4
" spine	--	--	1	
Injury "	2	--	2	1
Contusions.....	213	2	231	2
Sprain, foot	72	--	68	
Burns	22	--	26	3
Scalds	27	1	11	9
Sunstroke	57	1	34	32
Morsus canis	2	--	3	
Bite of rattlesnake	1	--	1	
TOTAL	505	6	488	56
CLASS XVIII.				
Wound, incised	55	1	67	
" penetrating ..	1	--	1	
" punctured ...	13	--	12	2
" lacerated	26	1	23	1
" gunshot.....	11	--	7	2
TOTAL	106	2	110	5
CLASS XIX.				
Mania potu	7	--	5	1
Delirium tremens.....	183	1	125	51
Intemperance	48	--	40	
Gonorrhœa	70	1	67	
Syphilis	137	--	427	5
Syphilides	2	--	3	
Syphilitic nodes	--	--	1	
" ecthyma	1	--	1	1
Suicide (attempted by laudanum).....	1	--	2	1
TOTAL	749	2	671	59
CLASS XX.				
Amputation, thigh	--	--	--	4
" leg	1	--	10	4
" arm.....	--	--	1	
" finger	1	--	5	
Ptyalism	8	--	8	
TOTAL	10	--	24	8

N. B. — During March, November and December, Cholera being epidemic in the city, the cases in the hospital have been separated from those during the remainder of the year.

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TABLE, showing the Admissions, Discharges and Deaths in the New Orleans Charity Hospital, for each month in the year 1850.

1850.	ADMISSIONS.				DISCHARGES.			DEATHS.			
	Total.	Black.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Remain'g.
January ..	1678	7	1272	406	1365	1077	288	235	191	44	797
February,	1163	..	915	248	1073	839	234	140	114	26	745
March	1276	4	940	336	1118	824	294	228	171	57	675
April	909	4	671	238	772	563	209	106	67	39	575
May	905	5	699	206	817	638	179	111	87	24	552
June	978	6	879	99	854	769	85	106	63	43	691
July	1647	3	1235	412	1404	1066	338	107	72	35	833
August ...	2685	4	1805	880	2323	1589	734	147	117	30	910
September,	2431	2	1704	727	2332	1613	719	114	69	45	895
October ..	1767	8	1429	338	1575	1263	312	150	119	31	942
November,	1420	4	1127	293	1106	914	192	194	140	54	1058
December,	1617	5	1224	393	1248	956	292	246	178	68	1127
Totals,	18676	52	13900	4576	15988	12111	3856	1884	1388	496	

TABLE, showing the Principal Diseases admitted into the Charity Hospital in 1850, or such as numbered 100 cases, or upwards.

DISEASES.	ADMITTED.	DISCHARGED	DIED.
Abscess	154	152	3
Bronchitis	122	125	7
Cholera, Asiatic	717	189	530
Contusion	211	221	2
Diarrhœa	849	724	183
Dysentery	410	264	162
Delirium tremens	182	125	51
Debility	118	115	8
Fever, intermittent.....	7887	7563	
" remittent	2271	1876	26
" typhus	1043	701	149
" typhoid	208	162	34
Phthisis.....	313	112	218
Pregnancy.....	219	83	
Rheumatism	404	392	3
Syphilis	437	427	5
Ulcers	414	499	1

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NATIVE COUNTRIES OF THE PATIENTS ADMITTED IN THE YEAR 1850.

From the United States.	
New York	395
Pennsylvania	195
Louisiana	264
Kentucky	77
Massachusetts	110
Ohio	90
North Carolina	28
Maine	73
Missouri	39
South Carolina	44
Indiana	27
Tennessee	51
Vermont	22
New Jersey	37
Virginia	97
Alabama	18
Rhode Island	22
Maryland	52
Florida	6
Delaware	12
Mississippi	13
New Hampshire	21
Illinois	12
Arkansas	2
Connecticut	23
Michigan	2
District of Columbia	11
Iowa	3
Georgia	26
Texas	1
Wisconsin	1
TOTAL	1,774

From Foreign Countries.	
Ireland	11,132
Germany	1,953
France	852
England	775
Prussia	440
Scotland	267
Switzerland	282
Spain	118
Portugal	75
Sweden	72
Norway	32
Denmark	95
Holland	40
Sardinia	53
British Prov. N. America,	34
Canada	86
Mexico	28
Austria	79
Russia	12
Italy	28
West Indies	19
Malta	4
Sicily	17
Belgium	17
Poland	30
China	1
Newfoundland	4
East Indies	4
Chili	3
Africa	2
Saxony	19
Corsica	1
Greece	1
Brazil	1
St. Helena	2
South America	2
Western Islands	7
Russian Poland	1
TOTAL	16,598
Unknown countries,	104

ADDITION OF TOTALS.

United States	1,774
Foreign Countries	16,598
Unknown Countries	104
TOTAL	18,476

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ARTICLE XII.

UNITED STATES MARINE HOSPITAL.

P. B. McKELVEY, Surgeon.

[We are indebted to the worthy surgeon of this Hospital for the following remarks on the origin and government of this institution at this place, and the analytical report for the year 1850. No better evidence can be wanted of the judicious and skilful management of this hospital, than a glance at the general character of the diseases admitted, and the small mortality.—ED.]

NEW ORLEANS, June 8, 1851.

My Dear Sir:

In compliance with your request, I send you an analytical report of the 'UNITED STATES MARINE HOSPITAL' at this port, for the year 1850. The very limited time which you have given me will not allow me to reply to your enquiries in detail, nor with more accuracy than my memory will at this time serve.

The institution was organised by acts of Congress of 1798 and 1802, for the relief of 'sick and disabled seamen' at the port of New Orleans. The benefit of this charity was also extended by these acts, or by enactments a short period subsequent, to those who navigated the 'river' at that time, meaning '*bargemen*' and 'raftsmen.' Although the means of transporting merchandise and produce have been almost entirely changed since that time, 'river men' are still admitted into the Hospital. The institution, until the completion of this Hospital, was '*farmed out*,' or, in other words, the surgeon appointed received a certain compensation *per cap.*, he supplying all things necessary. After the completion of the Hospital, in 1848, the government of the institution was entirely reörganized, so far as it respects its medical officers, etc. Seamen with American protections, or those who can substantiate the fact of their having served three years in American bottoms, and those who are employed in river and lake navigation, that can satisfy the collector of the port that they are such, are admitted by obtaining a permit from the Custom-House, predicated upon a certificate from the principal

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medical officer, that they are entitled to its benefits, as respects their curability.

Upon the organization of the institution under its present form, the following medical staff and officers were created:—

Principal Physician and Surgeon (not resident in the Hospital), salary, at present, $1,500 per annum.

Resident Physician and Apothecary, salary $1,000 per annum, board, lodging, etc.

Resident Medical Student, $180 per annum, board, lodging, etc.

Steward, $800 per annum.

Matron, $200 per annum.

Three Nurses are allowed.

The number of nurses can be increased, when the service requires it, by application of the principal medical officer to the collector of the port. This institution is partly supported by the tax of twenty cents per month upon all seamen, boatmen, etc., as was imposed by the original acts of Congress; but as this amount is only collected from those persons whilst employed, this amount is far from being sufficient, in this port, to meet the expenses.

Without having time to consult the proper means of obtaining positively correct information on this point, I will say that the expenses of the Hospital are about $20,000 annually —the seamen's tax collected, about $8,000. The deficiency is paid by the Government.

With very great respect, allow me to remain,

Your obedient servant,

P. B. McKELVEY, M. D.,

Principal Physician and Surgeon U. S. M. Hospital.

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AN ANALYTICAL REPORT OF THE UNITED STATES MARINE HOSPITAL,
For the Year ending December 31st, 1850.

DISEASES.	DISCHARGED IN												TOTAL.
	Jan'y.	Feb'y.	March.	April.	May.	June.	July.	August.	Sept.	October	Nov.	Dec.	
Abscess	3	..	1	2	..	..	..	2	1	1	1	..	11
Abscess of prostate	..	1	..	..	..	..	..	..	..	..	..	..	1
Amaurosis	..	..	..	3	..	..	..	..	..	..	..	..	3
Anchylosis	..	..	..	..	..	..	..	..	..	..	..	1	1
Arthrites, chronic	..	..	..	1	..	..	..	..	..	..	..	..	1
Bronchitis	5	2	..	2	2	1	..	2	..	..	1	4	19
Bubo	..	..	..	..	..	1	1	..	1	2	2	..	7
Blindness, (partial)	..	..	..	..	..	..	1	..	..	..	..	2	3
Burns	..	..	..	..	..	..	..	..	..	2	1	..	3
Carbuncle	..	..	1	1	..	..	1	..	..	..	..	..	3
Contusion	1	..	..	2	2	3	3	2	2	..	4	3	22
" Lumbar vertebræ	..	1	..	..	..	..	..	..	..	..	..	..	1
Consumption	3	1	..	3	1	3	2	1	..	..	..	..	14
Cholera asphyxia	..	..	..	..	1	1	..	..	..	..	..	..	2
Cephalalgia	..	..	..	..	..	..	..	..	..	..	..	1	1
Colica pictonum	..	..	..	..	..	..	..	..	..	..	..	..	1
Condylomata	..	..	..	..	..	1	..	..	..	1	..	..	2
Colic, bilious	1	..	..	..	..	..	..	..	..	..	..	..	1
Constipation	1	..	..	..	..	..	..	..	..	..	..	..	1
Cholera morbus	1	..	..	..	..	..	..	..	..	..	..	..	1
Chronic Cystitis	1	..	..	..	..	..	..	..	..	..	..	..	1
Dysentery, acute	..	..	..	..	..	2	2	1	1	..	..	..	6
" chronic	4	3	8	6	1	..	..	..	..	..	..	..	22
Diarrhœa, acute	3	5	4	5	8	2	..	..	..	5	7	2	41
" chronic	..	..	..	..	..	3	5	4	4	..	1	1	18
Debility, general	2	1	..	..	..	..	3	..	..	..	..	..	6
Dyspepsia	..	1	1	..	..	..	..	..	..	..	..	..	2
Delirium tremens	..	..	..	2	2	1	1	1	1	..	1	..	9
Dislocation, shoulder	..	..	..	1	..	..	..	..	..	..	..	..	1
Dropsy	..	..	..	..	..	..	..	..	..	..	..	..	00
Erysipelas	..	..	..	..	..	1	..	..	..	..	..	1	2
Fever, intermittent	8	7	2	3	8	8	12	21	15	13	17	8	122
" congestive	..	..	..	..	..	..	..	..	..	4	..	2	6
" remittent	3	..	..	2	..	..	3	..	1	1	14	3	27
" continued, (dengue)	..	..	..	..	..	..	..	13	24	24	..	..	61
" typhoid	5	..	..	..	..	..	..	..	..	1	1	1	8
" " from Chagres	6	2	..	..	..	1	1	..	..	..	..	..	10
Frost bitten	1	..	..	..	..	..	..	..	..	..	..	..	1
Fracture, inf. max	1	2	..	..	..	..	..	..	..	..	..	1	4
Fistula in ano	..	1	..	1	1	..	1	1	1	..	1	..	7
Fistula in perineum	..	..	..	..	..	..	1	..	..	..	..	..	1
Gonorrhœa	3	5	3	2	1	3	3	3	3	7	3	1	41
Gangrene, spontaneous	..	..	..	..	..	..	..	..	1	..	..	..	1
Gastro-duodenitis	..	..	..	..	..	..	1	..	..	..	..	..	1
Gastro-enteritis	..	..	1	..	..	1	3	3	..	..	..	..	8
Gastralgia	..	..	3	..	..	..	1	1	1	..	..	..	6
Gastrodynia	..	..	..	..	..	..	..	..	..	..	2	..	2
Hydrocele	..	..	..	..	1	1	..	..	1	..	..	..	3
Hemorrhoids	..	..	..	..	..	..	..	1	..	..	..	..	1
Hepatitis, acute	..	..	..	..	..	..	1	..	1	..	..	..	2
Hemorrhage, passive	..	1	..	..	..	..	..	..	..	..	..	..	1
Hypertrophy, heart	..	..	..	..	..	..	..	..	..	1	..	..	1
" spleen	1	..	..	..	..	..	..	..	..	1	..	..	2
Hypochondriasis	..	..	..	..	..	..	..	1	..	1	..	1	3
Iritis syphilit	..	..	..	..	..	..	1	..	..	..	..	..	1
Irritation, spinal	..	..	..	..	..	..	..	1	..	..	..	..	1

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ANALYTICAL REPORT—*continued.*

DISEASES.	DISCHARGED IN												TOTAL.
	Jan'y.	Feb'y.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	
Icterus	1	1	--	--	--	--	--	--	--	--	1	--	3
Insanity, partial	--	--	--	1	--	--	--	--	--	--	--	--	1
Indigestion	--	2	--	--	--	--	--	--	--	--	--	--	2
Intemperance	1	--	--	--	--	--	--	--	--	--	1	1	3
Lichen topicus	--	--	--	--	--	--	--	1	--	--	--	--	1
Laryngitis, chronic	--	--	--	--	--	--	--	1	--	--	--	--	1
Neuralgia	--	--	--	--	--	1	--	--	--	--	1	--	2
Necrosis — rib	--	--	--	1	--	--	--	--	--	--	--	--	1
" femur	--	--	--	--	--	--	--	--	--	2	--	1	3
" phalanges	--	1	--	--	--	--	--	--	--	--	--	--	1
Opthalmia	1	1	--	1	--	--	1	--	--	--	--	--	4
Opthal, (gonorrhœa)	--	--	--	--	--	--	--	1	--	1	--	1	3
Orchitis	2	2	2	1	--	--	1	--	--	1	1	--	10
Œdema glottis	--	--	1	--	--	--	--	--	--	--	--	--	1
Paronychia	4	2	1	3	1	3	2	5	1	--	2	3	27
Pleuritis	--	1	--	--	--	--	--	--	--	--	--	--	1
Pneumonia	--	--	1	--	--	1	--	--	--	--	--	--	2
Phymosis	--	--	--	--	--	1	1	--	--	--	--	--	2
Paralysis, partial	--	--	--	2	1	3	--	1	--	1	1	2	11
Pleurodynia	--	--	--	3	--	1	--	--	--	--	--	1	5
Psoriasis, invet	1	--	--	1	--	--	--	--	--	--	--	--	2
Parotid hypertrophy	--	--	1	--	--	--	--	--	--	--	--	--	1
Ptyalism	--	--	--	--	--	--	--	--	--	1	--	--	1
Rheumatism	23	5	8	10	10	6	4	5	10	8	4	9	104
Scorbutis	--	--	--	--	--	1	--	--	--	--	--	--	1
Syphilis	15	21	9	16	10	9	10	13	8	4	15	16	146
Stricture urethra	2	1	1	2	--	2	--	--	2	1	--	--	11
Sprained ankle	--	--	--	--	--	--	--	--	--	--	--	--	1
Ulcers	8	6	2	5	10	4	3	4	3	4	8	5	62
Vertigo	--	--	1	1	--	--	--	--	--	--	--	--	2
Variola	3	2	1	--	--	--	1	--	--	--	--	--	7
Varix ex. ven	1	--	--	--	--	--	--	--	--	--	--	--	1
Wounds, gunshot	--	1	--	--	--	--	--	--	--	--	--	1	2
" contused	--	2	3	--	--	--	--	--	--	--	--	1	6
" incised	--	--	--	1	--	--	2	--	1	--	1	1	6
TOTAL	151	81	55	82	63	65	72	89	83	87	91	74	969

RECAPITULATION.

REMAINING in the Institution December 31st, 1849			104
ADMITTED during the first quarter, 1850			251
" " second " "			231
" " third " "			352
" " fourth " "			278
DISCHARGED during the first quarter, 1850	263	TOTAL,	1,116
" " second " "	210		
" " third " "	244		
" " fourth " "	252		
DIED during the first quarter, 1850	23	TOTAL,	969
" " second " "	10		
" " third " "	11		
" " fourth " "	20		
TOTAL,	64		64
	1,033		1,033
TOTAL remaining under treatment January 1st, 1851			83

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ARTICLE XIII.

STATE MEDICAL SOCIETY OF LOUISIANA.

BY THE EDITOR.

This Society held its Second Annual Session, in the Hall of the Medical College, on Monday, the 10th of March, 1851. Owing to insufficient notice in the Medical Journal and city newspapers, the attendance of members from the country was very small. The meeting was composed chiefly of city members, who displayed a laudable degree of interest in the progress of the institution. It is hoped that the next meeting, which is to be held at the same place, on the second Monday of March next, will be attended by physicians and apothecaries from all parts of the State. The Society is restricted entirely to *duly licensed* physicians and apothecaries throughout the State, and it is hoped that this organisation will not only promote the cultivation of medical science, but also point out those who have a proper regard for the laws regulating the profession.

On this occasion, reports from four of the standing committees were read, viz.:—

1. '*On Medical Education and the Licence Law*'—by W. P. Hort, chairman.

2. '*On the General and Special Hygiène of the State*'—by Dr. E. H. Barton, chairman.

3. '*On the Diseases peculiar to Negroes*'—by Dr. S. A. Cartwright, Chairman.

4. '*On the Indigenous Botany of the State, etc.*'—by Dr. J. L. Riddell.

The chairmen of the other standing committees were not prepared to report, and begged to be excused.

The reports read were marked by much ability, and do credit to their authors: that of Dr. Barton will be found in this volume, and will speak for itself.

Dr. Hort compared the course of medical education in this country with that of Europe, and pointed out the prominent defects of ours. He dwelt particularly on the importance of a good preliminary education, before entering on the study of Medicine.

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It would be well if the sage admonitions in this report were heeded by both preceptors and students in this country.

Dr. Riddell's report consisted of a catalogue of the indigenous medicinal plants of this State, which is worthy of preservation. Dr. Riddell is a man of general science, and seems to be quite familiar with mathematics, natural history, chemistry, botany, and indeed most of the sciences. He is at this time pursuing some interesting investigations with the microscope, and we would not be surprised to see some important discoveries announced by him before the expiration of the year.

Dr. Cartwright's report on the '*Diseases peculiar to Negroes*' is a very extraordinary paper. We had expected to publish it in this volume, but as it has already been placed before the profession in the May number of Dr. Hester's Medical Journal, and so much of our volume is now occupied by papers from this State, we shall have to omit it.

In this paper, Dr. Cartwright presents some views so novel and curious, that they will probably require additional testimony, both from observation and experiment, before they can be received as truth. He goes minutely into the anatomy, physiology, and moral capacity of the negro, and attempts to prove that by his *natural organisation*, as well as the *fiat of holy writ*, he is doomed to servitude. His announcement that the *flesh, blood and all the secretions of the negro are darker than* those of *the white man*, will be somewhat startling to those physicians who have been familiar with negroes all their lives, in health and sickness, and even in the *dissecting-room*, without having observed these things. Dr. Cartwright quotes the very respectable old anatomist, Sœmerring, to prove that the brain is smaller, and the cerebral and ganglionic nerves of negroes are larger than in white people. All that the doctor asserts may be true; but, with the facilities afforded in this city for verifying them beyond all question, the announcement of such novelties should be supported by stronger testimony than he has here brought forward. These are interesting objects of investigation, and it is hoped they will excite inquiry.

Dr. Cartwright says—'the excess of organic nervous matter and the deficiency of cerebral—the predominance of the humors

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over the red blood from defective atmospherization of the blood in the lungs, impart to the negro a nature not unlike that of a new-born infant of the white race;' and lays great stress upon this resemblance. We confess, that the comparison appears to us to be somewhat forced, and the facts and arguments adduced in support of it not altogether convincing; but they may be more satisfactory to others.

Dr. Cartwright enters learnedly into the Biblical history of the Canaanite, Ethiopian or Negro, and shows the *Divine decree*, that the descendants of Ham should be servants to the descendants of Japheth. He says anatomy and physiology teach 'that the Ethiopian, or Canaanite, is unfitted, from his organisation and the physiological laws predicated on that organization, for the responsible duties of a freeman, but, like a child, is only fitted for a state of dependance and subordination. When history is interrogated, the response is, that the only government under which the negro has made any improvement in mind, morals or religion, and the only government under which he has led a happy, quiet and contented life, is that under which he is subjected to the arbitrary power of Japheth, in obedience to the Divine design.'

This part of the paper will prove interesting to those who are fond of curious research, but we cannot, at present, enter more fully into the author's views.

Among the diseases to which negroes are liable, and which in them present peculiar features, the author mentions—'Pulmonary congestions, pneumonia, etc.;' 'Bilious and adynamic fevers;' 'Scrofula, etc.;' 'Frambæsia, Pian, or yaws;' 'Negro consumption;' and lastly, two affections which he describes in a definite manner, and which he has the honor of being the first to add to our nosological catalogue—one he calls '*Drapetomania*, or the disease causing slaves to run away;' and the other, '*Dysæsthesia Æthiopis*, or hebetude of mind and obtuse sensibility of body—a disease peculiar to negroes—called by overseers *Rascality*.' The author's views on these two affections are entirely *original*, and certainly quite *novel*. He enters minutely into their symptoms, pathology and treatment, and insists upon their being distinct diseases of the mind and body in the

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negro slave. Thus, what might be considered as partaking somewhat of the *fanciful* in a writer of less experience and exalted reputation, is submitted by Dr. Cartwright in a serious and substantial manner to the consideration of the profession. We are sufficient believers in phrenology to suppose that many of the incorrigible moral obliquities of people, both white and black, do often arise from peculiar physical organization; but we have not been in the habit of tracing instances of perverseness, obstinacy, laziness, rascality, or a disposition to avoid the ordinary duties of life, to such a substantial cause; nor have we before seen these infirmities treated of in so scientific a manner.

All of us in the South are so familiar with negroes, that we have, doubtless, overlooked many of those *peculiarities of the race* which attracted the attention of the earlier anatomists and physiologists, who wrote after the introduction of negro slavery into the European provinces of America. If the views presented by Dr. Cartwright be correct and true, they will go far to show the *folly* of attempting to raise the negro to a social position on a level with the white man; and it is well for *science* to shed its light uponthis, *the greatest question of the day in this country*. Whatever be the abstract notions of right and wrong in regard to slavery, the important fact stares us in the face, that we have in our midst a large and growing population of a distinct race of people, with whom we can neither amalgamate nor live on an equality; and self-preservation, the first law of nature, demands that we either continue to keep them in abject slavery, or export them from our country. If the testimony of science confirm the precepts of our Holy religion, that slavery *per se* is not inconsistent with the laws of Nature and of God, then should the carping and clamor of *fanaticism* be put down, and not allowed to disturb the harmony of government, or the rights of individuals.

It is to be regretted that Dr. Cartwright did not mention more of the authorities that he has at hand to support his views, and still more that he did not actually *verify* them by recent observation and comparison. We trust that the next reporter on this subject, Dr. Davidson, will settle any doubts that may now exist.

Dr. Cartwright's paper contains some interesting observations respecting the peculiarities of ordinary diseases among negroes,

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to all of which we are not fully prepared to subscribe, yet we think them well worth the attention of physicians who practice among them. Dr. C. thinks our medical colleges should have a special chair devoted to the diseases of negroes.

The following is a list of the standing committees of this Society, with the names of the chairmen appointed to each, for the present year.

1. *On Medical Education and the Licence Law*—A. F. Axson, M.D., Chairman.
2. *On Surgery and Surgical Operations*—Warren Stone, M.D.
3. *On Physiology and Pathology*—Thos. Hunt, M.D.
4. *On Midwifery and the Diseases of Women and Children*—W. P. Hort, M.D.
5. *On Practical Medicine*—J. W. M. Picton, M.D.
6. *On General Therapeutics, Materia Medica and Pharmacy*—J. C. Simonds, M.D.
7. *On the Hygiene, Meteorology and Vital Statistics of the State*—E. D. Fenner, M.D.
8. *On the Botany and Natural History of this and the adjoining States*—J. Hale, M.D.
9. *On the Diseases peculiar to Negroes, and of Southern Climates*—S. P. Davidson, M.D.
10. *On the adulteration of Medicines, the sale of Drugs, etc*—Mr. E. C. Bolton.

The chairman of each standing committee, having been appointed by the President of the Society, is authorised to associate with himself four other members.

Here is a pretty amount of work laid off, and if the committees do their duty, we shall have a collection of valuable information, that will compare favorably with any of our sister States.

The Society did us the honor to pass the following complimentary resolutions, for which we feel duly grateful, and although far beyond the merits of our Work, we will use our best efforts to deserve.

1. "*Resolved*, That the Louisiana State Medical Society do cordially recommend to the patronage of the profession, Dr. Fenner's "Southern Medical Reports":

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2. '*Resolved*, That the medical profession of the State and the South generally are deeply indebted to Dr. Fenner, for the ability and industry with which he has labored for their progress in the publication of his volume of "Southern Medical Reports."'

It is truly gratifying to witness the progressive improvement of medical science in the South within the last few years. The proper spirit is being aroused at last, and we trust that from this time forward, the ablest practical members of the profession will cease to keep to themselves their stores of useful knowledge.

ARTICLE XIV.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF LOUISIANA — SESSION OF 1850 AND 1851.

This rising institution, at its last session, had a class of 188 matriculants, composed of very clever young men, who were attentive to their studies, and, we trust, amply compensated for the labor and expense necessarily required by a course of medical lectures. The session closed on the first of March, and the Commencement took place in the Chemical Lecture Room on Tuesday, the 11th, when Prof. G. A. Nott delivered a very chaste and impressive valedictory before the graduating class and a large audience in attendance by invitation. When this was done, Chief Justice Eustis, the President of the University, made some very pertinent remarks, and then conferred the degree of M. D. upon the following young gentlemen, who had previously stood a satisfactory examination.

NAME.	THESIS.	STATE.
J. Bachman Lee	Signs of pregnancy	Alabama.
R. G. Stirling	Dengue	Louisiana.
J. C. Mills	Cholera	"
R. T. Royston	Trismus nascentium	Alabama.
R. F. Hereford	Cholera	Louisiana.
F. B. Albers	Miasmas and contagions	"
Thos. A. Davis	Intermittent fever	Alabama.
T. J. Burrows	Congestive fever	"
J. Thomas Barron	Peritonitis	"

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NAME.	THESIS.	STATE.
John E. Paine	Laryngotomy	Mississippi.
W. C. Gilson	Phenomena of death	"
W. P. Hughes	On the blood	"
Stirling H. Jones	Acute Gastritis	Alabama.
G. T. Gates	Acute Pleuritis	Mississippi.
Wm. D. Fisher	Opium	Tennessee.
Wm. C. Red	Pertussis	Mississippi.
T. W. Jones	Inflammation	Alabama.
Jos. S. Rash	Digestion	"
A. C. Stewart	Dyspepsia	Louisiana.
Stanton Slaughter	Cold as an application in disease	Mississippi.
Richard H. Lockhart	Auscultation	Georgia.
W. S. Coates	Acute gastritis	Mississippi.
W. H. Lowe	Inflammation	Alabama
Edward Barge	Dysentery	"
Milton Gary	Pneumonia	"
A. M. Harman	Anæsthesia	Texas.
Wm. A. Thomason	Bilious remittent fever	Alabama.
J. F. Matchet	Watery extract from the leaves of the sorrel tree	"
T. Covington	Gastritis	Mississippi.
J. G. Calcote	Cholera infantum	Louisiana.
Wm. Bonner	Abortion	Alabama.
Frederic Egan	Hydrocephalus	Louisiana.
Philip M. Ryan	Bilious remittent fever	"
T. V. Whicker	Intermittent fever	Iowa.
C. R. Brumley	Phthisis pulmonalis	Louisiana.
James C. Hill	Dysentery	"
E. F. Nichols	Dropsy	"
John Butts	Phthisis pulmonalis	Alabama.
E. Pollard	Conjunctivitis	Louisiana.

GRADUATES IN PHARMACY.

G. LeRoy		"
L. A. W. S. Wolff	Opium	"

The halls of this College are inferior to none in the country, and can accommodate four or five hundred students. The next course of lectures will commence on the first Monday of November, 1851. The Professors are now able to present to their students a splendid museum, and to afford every facility for the successful prosecution of their studies.

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REPORTS FROM ALABAMA.

ARTICLE I.

NOTES ON THE TOPOGRAPHY, SANITARY CONDITION AND VITAL STATISTICS OF MOBILE, ALA.

BY GEORGE A. KETCHUM, M.D.

[We have received from this State but two papers that were written expressly for our Work, but others would have been contributed if the Medical Association of the State had not determined to publish their transactions in a separate volume. We feel at liberty to select from this volume, as well as the medical journals, such papers from the highly respectable physicians of this State, as appear best calculated to illustrate its medical topography, climate and prevalent diseases. As more than half of our volume is occupied by reports from Louisiana, we must necessarily be more restricted in our *extracts* than we could wish. Our notice of the Proceedings of the Alabama Medical Association will give some idea of its highly-commendable labors. The interesting 'NOTES' of Dr. Ketchum, on the topography and vital statistics of Mobile, will be followed very properly by Dr. Anderson's report on the diseases of the place for the year 1850.—ED.]

MOBILE is situated on the west bank of the Mobile river, just before it empties itself into the Mobile bay. The site is but slightly elevated above the level of the river, but sufficiently so for all purposes of convenient drainage. The soil is dry and sandy. Immediately opposite the city, on the east, is a large low island, covered with high grass and rushes, and known as the 'Marsh.' Immediately above the city, on the north, is a large swamp, extending along the banks of the river. Back of the city, on the north-west, west and south, the dry, sandy pine-hills commence, affording delightful and healthy retreats from the heat, sickness and annoyances of the city, during the summer; and thus have sprung up the pleasant villages of Toulminville, Spring Hill, Cottage Hill, Summerville and Fulton. South of the city, the shores of the bay are dotted for many miles with the residences of our citizens. These spots have been found usually exempt from the visitations of epidemic disease.

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The city is not compactly built, except in the portions occupied by the commercial and business houses.

The streets generally are wide, and run mostly north and south, east and west. Much attention, of late years, has been paid to planting shade trees along the pavements, and the comfort, and probably the health of the city, is much improved thereby.

The prevailing winds, during the winter months, are the north and north-east. From the middle of April (at which time the warm spring weather commences), the south winds, cool, refreshing, and laden with the moisture from the extensive waters of the gulf and bay make the heat quite endurable.

No system of under-ground drainage has ever been attempted in Mobile. From the light and porous character of the soil, however, the streets soon dry after the heaviest fall of rain.

The city is supplied with good spring water through the City Water-Works, from a stream some few miles distant. The climate of Mobile is warm and relaxing to the energies, and during even the winter months is trying to the constitution from the many and sudden changes that occur. The spring and fall are delightful seasons. During the coldest weather in winter the ground is but seldom frozen.

Most rain, I think, falls in December and January, and June and July.

There are in Mobile two hospitals, large, commodious and well-ventilated buildings, situated in the western part of the city,—the United States Marine Hospital and the City Hospital. They are each capable of accommodating between two and three hundred patients. Their location is an admirable one, being situated on a dry, elevated spot, with but little near them to obstruct the breezes from the bay.

There are several institutions of a charitable character in the city, among which may be mentioned the Catholic and Protestant Orphan Asylums, the Benevolent Society, which, besides other objects of charity, has charge of the destitute widows of the city, and the Samaritan Society, which does an immense deal towards alleviating the suffering and distress of the indigent poor.

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The want of a lunatic asylum and a workhouse is sadly felt, and the urgent necessity for such institutions is becoming more and more apparent each year.

There are three cemeteries, which, from their location, can exert but little influence upon the public health.

The sanitary condition of the city has undoubtedly improved within the last few years. For many years Mobile enjoyed the unenviable reputation of being a very unhealthy place, and the devastating epidemics of 1819, '25, '29, '37, '39 and '43, in truth, gave a coloring to this accusation. Since the last-mentioned year, there has been no severe visitation from the destroyer. We may account for this, in some measure, by the fact that the wet, muddy morasses, filled with rushes and stubble cane, which, until 1843, occupied nearly the entire northern portion of the city, have been filled in, and their places are now the sites of large cotton warehouses and presses; a better system of drainage has been resorted to in the principal streets; and, lastly, more exertion has been made by the municipal officers to carry into effect the prudent suggestions of the Board of Health.

There are but very few deaths that occur from any of the usual forms of endemic fever; in fact, the diseases of that character seem to have lost almost entirely the dread which a few years since they inspired. The greatest mortality for the last four or five years back, has been from enteric affections. The deaths from diarrhœa and dysentery have exceeded greatly the mortality from any other disease of an acute character. These diseases have not been confined so entirely as formerly to the spring and summer months, but have occurred throughout the year, and, at all seasons, have been occasionally of a very unmanageable character. The following table will show the entire number of deaths in Mobile for the years 1845 to 1850, inclusive:—

Years.	Population.	Whites.	Blacks.	Deaths.
1845	12,000	320	122	442
1846	12,000	339	144	483
1847	13,000	433	175	608
1848	15,000	566	239	805
1849	17,000	633	273	910
1850	20,000	437	178	611.

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During this period the yellow fever prevailed but one season, —the summer and autumn of 1847, and there were seventy-six deaths from the disease that year. In 1848 and '49, the cholera and its kindred affections swelled the mortality somewhat. The scarlet fever, during the winter of 1848 and '49, and the spring of '49, prevailed to a great extent, and numbered among its victims many adults. The mortality from this disease in 1848 was 75; in 1849 the mortality from the same cause was 50. These remarks will explain the large apparent increase in the mortality in 1848 and '49. In 1850 there was no epidemic of a fatal character. The dengue fever prevailed to a very great extent during September and October of this year, but there was no fatality attending it.

In 1845, with a population of 12,000, and a mortality of 442, the deaths were $36\frac{5}{6}$ in every thousand living; in 1850, with a population of 20,000, and a mortality of 611, the deaths were $30\frac{1}{2}$ in every thousand living. These two years were both considered healthy years. There was no epidemic visitation either year of a fatal character; we may therefore infer from these facts that the sanitary condition of the city has improved during this time.

The average annual mortality of

London, with its population of		2,000,000, is	44,700;
Paris,	ditto	1,000,000, is	23,500;
New York,	ditto	440,000, is	23,400;
Philadelphia,	ditto	400,000, is	14,500;
New Orleans,	ditto	125,000, is	7,954;
Mobile,	ditto	20,000, is	,611.

These figures would give a mortality for

London,	of one in every	44	living.
Paris,	ditto	42	"
New York,	ditto	19	"
Philadelphia,	ditto	27	"
New Orleans	ditto	15	"
Mobile,	ditto	32	"

Thus showing that the percentage of deaths is actually less in Mobile than in any of the named American cities.

The annexed table will show the number of each class—whites and blacks, males and females—who have died in Mobile from 1845 to 1850, inclusive.

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	1845.	1846.	1847.	1848.	1849.	1850.	Total.
Males - - - - -	279	324	396	536	580	396	2511
Females - - - -	163	159	212	267	329	220	1350
Whites - - - - -	320	339	443	566	637	433	2728
Blacks - - - - -	122	144	175	239	273	178	1131
Total - -	442	483	608	805	910	611	3859

One is struck immediately with the great disproportion exhibited by this table, between the mortality of the males and females. Very nearly the same disproportion probably exists in the relative population, and the greater degree of exposure and the various excesses committed by the males, will probably account for much of the excess.

In the following table I have adopted the classification of J. C. Simonds, M.D., of New Orleans. By it all causes of death are included under three divisions; these are subdivided into nineteen classes. The three divisions are called,—1st, Zymotic Diseases; 2d, Sporadic Diseases; and, 3d, External Causes of Death. The first division embraces epidemic, endemic and monoxysmal diseases. The last class, *monoxysmal*, refers to those diseases which affect individuals but once, such as small-pox, scarlet fever, etc.

The second division — sporadic diseases — is the standard for comparing the mortality of different races, sexes and individuals; it is divided into thirteen classes, ten of which relate to diseased organs, or system of organs, one for diseases of a variable or uncertain seat, one for deaths from old age, and one for the still-born.

The third division — external causes of death — contains three classes: 1st, Casualties; 2d, Exopathic, signifying injuries inflicted by another person; and 3d, Esopathic, applied to self-inflicted injuries, such as suicide, intemperance, etc.

The second of these classes shows the estimation in which life is held and the respect for the laws: the third is a standard of the morality of a community.

This table has been prepared with much labor, and is as nearly accurate as it can be, the sextons' report of interments in the several cemeteries having been taken as the ground-work for it.

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CLASSIFIED TABLE OF DEATHS IN MOBILE, from 1845 to 1850, Inclusive.

	1845.				1846.				1847.				1848.				1849.				1850.				TOTAL OF EACH CLASS OF DISEASE
	WHITES.		BLACKS.		WHITES.		BLACKS.		WHITES.		BLACKS		WHITES.		BLACKS.		WHITES.		BLACKS.		WHITES.		BLACKS		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
TOTAL	208	112	71	51	242	97	82	62	285	148	111	64	394	169	142	98	406	231	174	98	296	137	98	83	3856
Unspecified - - - - -	22	18	17	14	32	6	12	11	41	25	21	14	63	29	17	13	62	53	24	20	38	23	16	16	611
Specified - - - - -	186	94	54	37	210	91	70	48	244	123	87	50	331	140	125	85	344	178	150	78	258	114	82	67	3245
A. Zymotic - - - -	13	11	6	10	67	50	11	2	67	48	11	9	72	98	26	17	129	41	54	14	19	3	3	4	775
B. Sporadic - - - - -	133	78	39	26	147	33	63	46	140	69	57	37	213	38	87	62	163	133	82	59	201	106	75	61	2147
C. External causes - - -	40	5	9	1	38	8	6	- -	47	6	19	4	46	4	12	6	52	4	14	5	38	5	14	2	385
I. Epidemic diseases - -	- -	- -	- -	- -	- -	- -	- -	- -	48	28	2	- -	- -	- -	- -	- -	71	8	46	3	- -	- -	- -	- -	206
II. Endemic diseases - -	11	5	4	7	33	7	12	4	13	5	5	3	41	55	11	3	41	15	4	4	11	2	1	2	307
III Monoxysmal diseases -	2	6	2	3	5	7	- -	- -	3	4	5	1	31	43	15	14	14	18	4	7	3	1	2	2	192
IV. Diseases of a variable seat.	20	2	4	4	12	3	8	10	11	5	5	2	22	3	9	4	15	17	8	4	22	13	8	8	219
V. " nervous system,	28	10	4	1	32	14	10	7	17	15	14	12	29	14	23	9	36	18	21	9	36	26	15	13	426
VI. " respiratory system,	38	26	13	12	36	18	19	13	44	23	10	10	46	23	20	18	41	28	16	17	48	21	7	17	583
VII. " circulating system,	3	2	2	1	6	1	- -	- -	8	1	2	- -	7	2	6	7	4	2	2	- -	5	3	- -	- -	64
VIII. " digestive system,	26	29	7	5	38	17	12	11	61	20	15	8	93	18	11	14	48	34	21	15	65	23	22	10	626
IX. " urinary system,	- -	- -	1	- -	2	- -	- -	- -	1	- -	- -	- -	1	- -	- -	- -	- -	- -	- -	- -	2	- -	- -	- -	7
X. " Males - -	- -	- -	- -	- -	1	- -	- -	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	2
XI " Females -	- -	5	- -	1	- -	1	- -	1	- -	3	- -	- -	- -	5	- -	1	- -	4	- -	- -	- -	3	- -	2	26
XII. " locomotive system	- -	2	- -	1	3	1	- -	- -	1	- -	1	1	2	- -	1	1	1	1	2	- -	4	- -	- -	- -	22
XIII. " integumentary do.	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	1	1	2
XIV. " organs of sense,	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	00
XV. Old age - - - -	- -	1	5	2	2	2	3	2	3	1	6	1	2	1	11	2	2	6	2	8	2	1	5	6	76
XVI. Still-born - - -	6	4	3	- -	9	- -	3	3	10	10	6	6	12	12	6	6	10	6	6	5	20	15	6	4	168
XVII. Casualties - - -	27	1	7	1	17	4	4	- -	28	2	14	1	23	- -	9	3	23	2	7	4	28	2	10	1	218
XVIII. Exopathic - - -		1	1	- -	2	- -	1	- -	4	- -	3	3	1	1	2	2	3	1	2	- -	4	- -	1	1	36
XIX. Esopathic - - -	10	3	1	- -	19	4	1	- -	15	4	2	- -	22	3	1	1	26	1	5	1	6	3	3	- -	131

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In examining this table, we find by far the greater number of deaths caused by diseases of the digestive and respiratory organs. The mortality from the former class has been very great since 1848, which was the year that the cholera first made its appearance in our midst.

The mortality denoted by the class Monoxysmal was chiefly from scarlet fever in 1848 and '49, and was a wide-spread and fatal disease.

The colored population exceed the whites in longevity. The number of blacks dying from old age is nearly double that of the whites. Many of these instances of longevity are among the slaves owned by our Creole population. They seem to be almost entirely exempt from the attacks of yellow and bilious fevers. Their imprudent habits and constant exposure, however, render them peculiarly susceptible to attacks of cholera and its kindred affections.

ARTICLE II.

ON THE DISEASES OF MOBILE, FOR THE YEAR 1850.

Read before the Alabama State Medical Association, at its annual meeting, in December, 1850:

By Wm. H. ANDERSON, M. D., of Mobile, Chairman of the Committee.*

Since the commencement of the present year, the city of Mobile has been unprecedentedly healthy. With a single exception, there have been no epidemic influences at work, and the necrological tables show a mortality far less, in proportion to the population, than those of any other city with which your committee are acquainted. During the month of January, the atmospheric changes, which are the great laboratory for the production and propagation of human disease, were not of a nature to produce many new cases of sickness. The general range of the thermometer was from 54° to 68° Fahr.; on one occasion only did it descend to 40°, and thrice, at 2 P.M., it reached as high as 70°. The wind blew principally from the S. and varied chiefly between the S.E. and S.W. The greater part of the month was cloudy, but

* From the Proceedings of the Medical Association of the State of Alabama, 1851.

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mild, and the quantity of rain that fell was unusually small for that season of the year.

It was generally conceded by the physicians, that the month was healthy. No class of Society would seem to have suffered much. With regard to the diseases, pneumonia was the most important that occurred, both with respect to danger and frequency; and yet the deaths were very few, although at least one-third of the cases reported were severe. In the practice of some of the physicians, it appears to have attacked children principally, and to have lingered with some degree of obstinacy.

Next to pneumonia, rheumatism may be mentioned, as the disease most worth noticing. According to the reports of the physicians, it was both frequent and severe. Acute rheumatisms were painful and obstinate, while those of a chronic form were aggravated by the state of the weather.

Dysentery prevailed to some extent, but in general was easily checked. Intermittent fever was of rare occurrence, light in its attack, and of short duration. Several practitioners concurred in the opinion, that the diseases of dentition were aggravated by the weather, and were more obstinate than is generally the case at that season of the year.

Consumptive patients from the North, who were here in quest of a more congenial climate, suffered much as a general rule. Many of them declined rapidly, and were obliged to leave for Cuba, or other West-India Islands.

The only contagious diseases we could hear of were rubeola and pertussis.

In *February*, the temperature, as indicated by the thermometer, was much lower than in the preceding month, and northerly and westerly winds prevailed a good part of the month. The diseases were pretty much the same as in January. The cases of pneumonia and pleurisy were rather more frequent than in January, but were not, as a general rule, so severe. A case or two of scarlet fever was reported, and perhaps some twenty or thirty cases of varicella. Intermittent fever continued to prevail to a limited extent, and a few cases of typhoid fever occurred, in different parts of the city. They were not very severe, however, and yielded to appropriate treatment. As far as could be ascertained,

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patients laboring under chronic diarrhœa suffered a good deal during this month. The diseases in the hospitals presented nothing worthy of particular notice. The quantity of rain that fell amounted to very little, for a winter month.

In *March* and *April*, the weather was mild and pleasant, and the city healthy. Intermittent fevers seemed to have subsided almost entirely, and the diseases were limited to a few cases of pneumonia, rheumatism, an occasional sporadic case of scarlatina, and the usual ailments which may occur at any time in society. The necrological tables for these two months are small, and show no sign of anything approaching an epidemic.

The committee have no particular remarks to make about the month of *May*. The cases of disease in the city were very few; almost amounting to perfect exemption. If there was more of one disease than another, it was probably diarrhœa, some few cases of this having been reported.

In *June*, the weather commenced to be very hot, and continued so during the rest of the summer. With the exception of a few cases of bilious fever, which were generally light, and easily managed, there was nothing worth mentioning. Probably there never was, in June and July, so little sickness as during the present year.

The remarkable exemption of disease that characterized the preceding months, continued through August also. The weather continued intensely hot; the winds southerly, and very little rain. Bilious fever, diarrhœa, congestive fever, and the summer complaints of children, were all reported as occurring during the month; but very few cases were malignant, and fewer still, fatal. None of the cases of congestive fever were of the algid variety, and the congestion, as a general rule, was more marked in the brain, than in any other organ. The committee may here mention, that the cases of congestive fever which occur in Mobile are entirely different from those which occur in the interior of the State. It is, at any rate, a rare disease in the city, and is not marked by that intense torpidity of all the internal organs, which is met with in the interior. The brain is more easily aroused, the liver is more readily called into action, and the lungs do not appear to be so deeply congested; smaller doses of medicine are

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required to bring about a sanitary reaction, and the disease throughout, is less dangerous, and less malignant.

A marked change in the temperature of the weather, and the meteorological phenomena, took place in *September*. The wind blew almost exclusively from the north, and the mornings and evenings were cool. Bilious and intermittent fevers increased in number and severity; still, however, the city was considered healthy. Diarrhœa and dysentery were more prevalent than in the preceding three months. A few cases of bilious fever assumed a malignant type, but did not put on any of the phases of yellow fever. During the whole month, there was not a single case of yellow fever, or anything approaching it. The diseases of dentition were perhaps worse, during this month, than they had been during the summer, and catarrhs were not unfrequent. It is worthy of notice, that although the winds blew much from the north, making the mornings and evenings cool, yet the cases of ague and fever were remarkably few within the corporate limits. In the suburbs of the city, including an area of five or six miles, on the north, west and south, there was much more of the tertian intermittent, than in the city proper.

October was a warm and disagreeable month; and was, perhaps, the most sickly month during the year. Bilious fevers became more prevalent, but still the type did not amount to anything malignant. A single case of yellow fever, which proved fatal, was all that could be heard of. Dysentery was not an unfrequent disease, and in many cases it was obstinate and not disposed to yield readily to treatment. A rather unusual number of cases of menorrhagia claimed the attention of the physicians. These cases could not be attributed to any atmospheric phenomena, and they may have been purely accidental. Intermittent fever prevailed to a certain extent throughout the month, but was very manageable with the usual mode of treatment. Some cases of erysipelas occurred, towards the latter part of the month; enough, perhaps, to justify the suspicion that there was some atmospheric influence at work to produce them.

The remarks made upon the month of October, will apply to *November* also.

In connection with the meteorological tables, attached to this

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report, the committee regret very much that they are unable to give a regular statement of the hygrometric changes of the atmosphere. Observations on the dew point were commenced, but owing to the instrument getting out of order, and the necessary absence of the reporter of the Mobile Medical Society, they have been taken irregularly, and are consequently valueless. From the investigations made in London, Paris and Vienna, as well as in New Orleans, New York and Charleston, there can be little doubt, that the relation which the dew point of the hygrometer bears towards the temperature of the atmosphere is intimately connected with disease, in every season of the year. So far as the observations did go, the dew point was not very high, and the minimum temperature was seldom below it.

In each of the winter, spring and autumn months, there was an occasional case of Asiatic cholera; but it must be remembered that the majority of the cases, few as they were, contracted the disease in New Orleans, and either died or recovered from it within a day or two after their arrival at this place. The Asiatic cholera, as an epidemic, has never visited Mobile; and yet the zymotic influence that produces it has always been felt here, to a certain extent, whenever the disease has been in New Orleans. Both during the past and the present year, whenever our sister city was visited by cholera, an immense number of cases of dysentery was observed here, showing conclusively that the poison was about us, but was not virulent enough to produce the genuine disease. Whether this is owing to the cleanliness of our streets, the nature of our soil, or the geographical position of our city, or to all of these combined, we are unable to say.

THE DENGUE.

Early in the month of September, the Dengue invaded Mobile, and was almost universal in its attack. It spread itself through all classes, and attacked all ages; not even sparing infants under one month old. Although, as a general rule, the disease was ushered in by premonitory symptoms, and even gave notice of its approach four or five days previous to its actual invasion, yet, it was often sudden in its attack, making the transit from perfect health to painful sickness an almost momentary affair.

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During the first fortnight of the career of this epidemic, it was a simple disease, uncomplicated with any symptoms or lesions except those which are peculiarly its own. As such, it was preceded by general uneasiness, wandering pains, decline, rather than loss of appetite, and disturbed sleep. Most of these symptoms lasted from several hours to several days; at the end of which time they all became exaggerated, and the disease set in with all its violence. The pains which had hitherto been general only, now had a tendency to become local, and to spend their forces on one or several parts of the body. The forehead, the breast, the lumbar region, and the joints, seemed to be the parts which were most affected with actual pain, while all the voluntary muscles were stiffened and suffused with defective innervation. In many cases, there were catarrh, irritability of the larnynx, and slight cough. A large majority of the cases were accompanied with an eruption, which belonged to no particular class, but occasionally partook of the intense blush of scarlatina, the mottled appearance of roseola, and the actual spots of ephelis itself. In various instances, an exfoliation of cuticle, similar to that of scarlatina, occurred, leaving a tenderness of the newly-exposed skin. This eruption, though usually accompanying the disease, sometimes did not make its appearance until the close of the attack. In this form of the dengue, the febrile symptoms were light, and the secretions nearly natural. The treatment was simply palliative, consisting of anodynes and sudorifics, and the duration of the attack was from two to seven to eight days.

As the season advanced, the dengue, from being a light and unimportant affection, assumed a serious, and, in some instances, alarming aspect. This was not considered, however, so much an aggravation of the disease, as a complication of it with the usual autumnal fever. In these cases, superadded to the symptoms already mentioned, were great febrile excitement, obstinate vomiting, severe superorbital pain, injected conjunctiva, costiveness, deranged biliary secretion, and scanty, high-colored urine. In many instances, there was total absence of sleep for several days and nights. The cerebral excitement amounted sometimes to actual delirium, and the stiffness of the muscles was such, that it was absolutely painful for the patient to move or be moved in bed.

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Any motion of the eyes, especially the attempt to roll them outwards, was accompanied with lancinating pain. The symptoms of this type of the dengue were variable. In some cases, its invasion would be ushered in with a chill, in others, this symptom would be entirely wanting. Some patients evinced much febrile excitement, while in others the pulse remained nearly natural. As a general rule, the skin was hot and dry, little disposed to moisture; but now and then a case would present itself with cold extremities, general sensation of chilliness, and profuse perspiration, throughout the attack. Such persons seemed to fare neither better nor worse than those who had an entire different train of symptoms. The convalescence, in all cases, was slow, and in many instances was by no means in keeping with the lightness of the attack. This protracted convalescence is a remarkable and distinctive feature of the disease in question.

With regard to the treatment—it, of course, varied with the complications. Sudorifics were seldom neglected, and to relieve the pains and stiffness, all kinds of anodynes, both general and topical, were used; and most of them, we must add, with little effect. Camphor, veratrine, hyosciamus, aconite, prussic acid, chloroform, and a host of other remedies, of kindred action, were administered, with varied success. Morphine and quinine seemed to enjoy more reputation, in the simultaneous alleviation of pain and production of sleep, than any other remedies.

If we search for the cause of this wide-spread epidemic, we find it veiled in the same obscurity that hides the cause of all other diseases, and we are not prepared to attribute it exclusively either to electric, telluric, fungoid, or zymotic agency. The individual opinions of medical men, as to its true cause, vary so widely, that it is unnecessary to record them here; and even if they were produced, they would serve, from their discrepancy, only to prove that the true etiology is as yet not understood.

Equally unsettled with the cause, is the pathology of the disease. From the irritability of the larnyx, the redness of the fauces, the cough, etc., which sometimes accompanies the dengue, it has been called a catarrhal fever; but there are other symptoms, altogether different from anything we see in ordinary catarrh. Some practitioners of respectability look upon it as an

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eruptive fever; but the advocates of this theory cannot be unmindful that a great number of the cases go through their course without any eruption at all. An opinion has been current that the dengue is a sort of bastard yellow fever, and this was strengthened by the fact that it made its appearance at the same time, and invaded in the same manner, with the genuine yellow fever. The differences are so great, however, between the two diseases, that the most ardent advocate could not establish a respectable relationship, or kindred. An epidemic of yellow fever, so universal in its attack as the dengue was in Charleston, Mobile and New Orleans, would be a scourge that has no parallel in the history of Medicine. Some practitioners consider the disease as an epidemic neuralgia, and if the writer of this article inclines to any opinion at all, it is to that which classes the disease, in its *uncomplicated* form, with the neuralgic affections.

The limits of this report preclude the possibility of dwelling longer on this uncommon and interesting disease. It was intended only to give a rapid sketch of its history, as it appeared amongst us, but in doing this in such a cursory and imperfect manner, the writer feels it is duty to close with the remark that he has not done justice, either to the disease or to the reader.*

* From Dr. Anderson's account, the dengue of Mobile corresponded with the description of that complaint in Charleston and Augusta, as given by Drs. Dickson, Wragg and Campbell, more closely than did the so-called *dengue* of New Orleans. The *eruption*, which was the main distinctive feature relied on by these writers, was certainly *rare* in this city, and the connection between the various types of endemic fevers so intimate as to defy all efforts at distinction. The reader is referred to my report on the fevers of this place, for statistical facts. I desire nothing but the truth, and shall endeavor to present fairly the views of those who differ with me in opinion. We omit Dr. Anderson's Meteorological Journal.— The mortality of the year may be seen in Dr. Ketchum's Report.—Ed.

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ARTICLE III.

ON THE CLIMATE AND DISEASES OF HUNTSVILLE, ALA., AND ITS VICINITY, FOR THE YEAR 1850.

By JOHN Y. BASSETT, M.D.

'Celsus thought it better, in doubtful cases, to try a doubtful remedy, than none at all.'—Jodocus Lommius, London edition, 1738.

We have had but little sickness of any kind, in Madison county, during the past year, and for several years a perceptible decrease in our familiar forms of bilious intermitting and remitting fevers has been observed; yet we find, as these decline, a more continued type, of a lower grade of action, has appeared among us more frequently than formerly.

In the neighboring county of Limestone, the actual deaths from this typhoid form of fever have possibly outnumbered those of the most seasons from bilious intermittents. In this last particular of mortality, Madison county has also been highly favored; there have been few deaths among the patients of the regular practitioners.

I have endeavored to get the best information, from the most reliable sources within my reach, on the treatment of this disease, and have found some discrepancy among our most reputable practitioners; therefore, in giving my individual experience and opinions, I desire to censure none. In such cases, the best informed fear the most, and experience but renders us charitable, I will, therefore, only say that I have been fortunate, in my own practice, in reversing the aphorism at the head of this article; that rule of practice has found favor in the eyes of every generation of both doctors and patients, and it is not wonderful that the few able men of every age that have opposed it have warred in vain,—that the science of French expectancy, and the quackery of German Homœpathy, have alike failed: dying men will have pills and parsons.

When physicians were required, by public opinion, to follow the dictates of Hippocrates, and his immediate successors, as closely as Christians now profess to follow the commandments of Moses and the prophets, they claimed a right to act boldly their faith in these authorities, and public opinion sustained them:

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and however difficult the task, they found it much easier to understand the written language of Hippocrates, than the yet more obscure teachings of Nature, between which and his followers he stood an infallible interpreter, making her mysteries so plain, that wayfaring men, though fools, could not err therein. Hippocrates was but our fellow-servant, and we are but ministers of Nature; our whole art consists in understanding her language and laws; our whole practice, in obeying her mandates: if we do not understand them, it is either our fault or misfortune; to act as though we did, is quackery. Celsus says, this bold practice of old, *fere quos ratio non restituit temeritas adjuvat;* but shrewdly remarks, that 'Physicians of this sort diet other men's patients more happily than their own.' I doubt however, if, in the present state of Medicine a thorough physician is ever, in any stage of any disease, so completely without rational education as to be thus nonplussed, and driven to the necessity of dealing a blow in the dark: where there are no intelligible indications, it is clear there should be no action.

Then, if I have not followed the advice of this master, it has not been lightly laid aside; nor, as I have stated, without precedent; and if I have, in a measure, adopted another of his rules, to make food physic, (*optimum vero medicamentum est, cibus datus,*) it has not been upon his mere authority. I revere authority, believing with the royal preacher, that 'whoso breaketh a hedge, a serpent shall bite;' yet I rejoice that its fetters are broken in Medicine — that we no longer are hedged in with the eternal cry of 'Hippocrates and reason:' But if, in getting rid of the authority of the Ancients, we have discarded the example of their labor and learning, and turned a deaf ear to their opinions, it is easier to be lamented than corrected. If the unthinking part of the profession of old, that followed authority, and 'on the first day of a fever loosened the belly, on the next opened a vein, on the third give a bolus,' etc., are now represented by those who follow fashion, and give calomel, quinine and cod-liver oil every day, we have but changed authority for fashion, and are yet in bondage; but fashion, though indomitable, changes with the wind, and if for a time it carries the small craft, the weak or designing in its current, it soon leaves them

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stranded, as land-marks, at which we can at least laugh, without fear of professional martyrdom.

I do not say there is no virtue in cod-liver oil, but I do say, from very limited experience, and some reflection, that there is more for a consumptive in good fat mutton, (bating the mystery which will soon abate itself, and the trace of iodine which is at least useless here.) I have never seen a poor hectic swallow her nauseous dose of semi-putrid train oil, and retain it under a sort of superstitious influence, which is the prime virtue in all nostrums, that I have not felt humbled in my profession: nor is it wonderful that this delicate creature, who has been starved for months on black tea and toast, should suddenly improve on the addition to her daily food of six or eight ounces of animal oil; it would be more charitable, however, and more sensible, to make physic of more palatable food. Any article of the materia medica used superstitiously, or exclusively, is quackery. Calomel and quinine, thus used, are as much quackery as the water of the Hydropathist, which being also an article of our materia medica, from the time of Galen, is only quackery when thus used.*

Although the present century has added several new agents to our vast catalogue of remedies that have not belied their inventors, I contend that there is no present need of further additions, but much of liberal curtailment. Celsus tells us of 'a certain Petro,' ancient in his days, whose whole park of munitions consisted of *blankets, cold water, roast pork*, and *wine;* to which modest limits I would not care to be restricted, but think, somewhere between Don Petro of ancient days, and Bache of modern, might be profitably selected.

I have said that we are ministers of Nature, and will add, necessary to her in Medicine. Nature has no power to replace a

* Since the foregoing remarks were written, we trust cod-liver oil has found more favor in the sight of the worthy author. On account of pulmonary disease, he was, last winter, compelled to seek the more genial climate of Florida, and as he passed through this city, on his return, in March, (much improved, we are happy to say,) we urged him to give the cod-liver oil a fair trial, in his own case. We have not heard from him since he reached home, but sincerely hope he may have realized all the benefit that ever was claimed for this now popular remedy.—Ed.

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dislocated member, and needs the assistance of a surgeon, whose function ceases when it is reduced, and then she displays wonderful powers in consummating a cure. Our mission is special, and we should not usurp plenipotentiary privileges, but walk humbly in our vocation, claiming only that power which we possess; and to possess any real power in Medicine, the language of Nature must be studied in her normal actions. This is Physiology, the foundation of all medical knowledge, without a proper understanding of which we can never be but respectable empirics, which is certainly a more useful and respected character than that of the pretender to science, who has neglected to appreciate his experience. The public generally acknowledge this, but the profession is not often laid under obligations by this respected class of physicians, who generally yield to the fondness of their patients for new remedies, and thus secure a character for liberality, at the hazard of weakening the public faith in the science of their profession, when the compliment should rest where it is merited.

I do not say that the study of nature, human and comparative, so far as it relates to medicine, is an easy task: let any one undertake a foreign language, and when he thinks he has mastered it, let him go into its native country and attempt to use it among the polite and well-informed; if he succeed, let him go among the illiterate and rude, where *slang* is current; into the lunatic asylum, where the vernacular is babbled in broken sentences through the mouth of an idiot, and attempt to understand this; should he again succeed, he may safely say that he knows that language. Let him then set down and calculate the cost, in labor, time and talent;—then square this amount and go boldly into the study of physiology; and when he has exhausted his programme, he will find himself humbly knocking at the door of the Temple, and it will be opened; for diligence, like the vinegar of Hannibal, will make a way through frozen Alps; it is the '*open sesame*' of our profession. When he is satisfied with the beautiful proportions of the interior, its vast and varied dimensions, the intricate and astounding action of its machinery, obeying laws of a singular stability, whose very conflict produces harmony under the government of secondary laws —

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if there be anything secondary in nature!—when he is satisfied, (and such are not satisfied until informed), he will be led to his ultimate object, to take his last lessons from the poor and suffering, the fevered and phrenzied, from the Jobs and Lazaruses,—into the pest-houses and prisons, and here, in these magazines of misery and contagion,—these Babels of disease and sin, he must not only take up his abode, but, following the example of his Divine master, he must love to dwell there;—this is Pathology.

When such an one reënters the world, he is a physician; his vast labors have not only taught him how little he knows, but that he knows this little well. Conscious of this virtue, he feels no necessity of trumpeting his professional acquirements abroad, but with becoming modesty and true dignity, which constitute genuine professional pride, he leaves this to the good sense of his fellow-citizens to discover.

The evident change in our diseases, that has been in progress of late years, argues a change either in the agent or patient, the climate in its most extensive signification, or in the constitution of the people, which last approaches so near an absurdity, that I have taken the first only into consideration in these brief remarks.

I have annexed* a carefully revised meteorological table, including five years' observations from 1830, and compared it with observations made during 1850, in which I find not a mere accidental discrepancy, but an apparent permanent change in the climate. We find the monthly mean temperature, in every instance, greater in 1850, which contradicts the popular opinion that our climate is getting colder. We also find the extreme monthly and daily variations of the thermometer less in every instance; which gives us a reason, if correctly stated, for the universal opinion that Madison county has grown more healthy

* Dr. Bassett sent us an *abstract* from the meteorological tables of the late Rev. John Allen, of Huntsville, for the years 1830–'35, inclusive, to which he appended an abstract for 1850, which we are compelled to leave out, for two reasons: first, because we are forced to abridge our *table-work* in this volume, and, secondly, because we do not think there can be a perfectly fair comparison between *one* year of a certain period and *five* of another. We will insert the *general summary* of Dr. Allen's observations, and Dr. Bassett's *abstract* for the year 1850, which is the best we can do.—Ed.

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of late years. The number of rainy days in 1850 is nearly double the average of the other five years, and the amount of rain fifty per cent. greater; which contradicts the general opinion that our dry years are healthy; (it is more true when confined to seasons): 1850, which has been remarkably healthy, had its due portion of rain, with the exception of the Fall months. I give the above as a statement of a possible cause, among others, of the change of our maladies, without pretending to be satisfied with it as an explanation of the phenomena.

The first cases of typhoid, mucous, or nervous fever that occurred to me, was some time during the spring and summer of 1835; at that time it was called *winter fever* in winter, and *slow fever* in summer. I did not understand it. The symptoms were obscure, as at present: a slight pain below the right ribs, dry tongue, moderate pulse, and some restlesness; an occasional chill, repeated irregular rigors, with partial sweats that seemed to give no relief; and these symptoms seemed to hold their course independent of all treatment. As the disease determined itself, the bowels generally became loose, giving issue to mucous discharges, the urine copious, and either the lungs or brain involved. It was impossible for me to say at what time the patient got worse. The eyes become watery and averse to the light, and are closed either from an inability or reluctance to open them; the hearing becomes dull, and the articulation gets from under the control of the will—(I do not allude to the muttering, or sleep-talking, but to the inability of the patient to say what he wishes.) I know of no certain sign of sinking. I have seen them recover from every stage, which has been so gradual that I never could tell for several days whether they were improving or not. These two changes, of worse and better, have bewildered me more than anything that has presented itself to me in the practice of Medicine; but when every one sees that the patient is better—the doctor admits it—he begins to desire food—his appetite becomes voracious, it is ungovernable in the most discreet and prudent, and a dangerous stage for negroes. I have lost several in this stage of recovery, after I had ceased to visit them, by a gorge of food clandestinely given by their darents or friends. They sunk within forty-eight hours from

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purging. Frequently the lungs are involved from the onset—then it is called *typhoid pneumonia.*

When I first treated this disease, I gave calomel and quinine freely, together with opium and blisters. Seeing no benefit from this treatment, I became doubtful of its propriety, and, not knowing what to do, I boldly determined *to do nothing*, or nearly so. After the lapse of a few years, we became accustomed to this malady, and relied on experience—an experience that has wrought very different effects in the minds of different practitioners; some of those who gave large doses of calomel and quinine are confirmed in the propriety of their course; others who, like myself, were early convinced of the impropriety of this treatment, it has established in their minds the correctness of their opinions. I have therefore applied to reliable sources for information, out of the profession. One gentleman, who has suffered in his own family by ten bad and many mild cases, three of the early ones proving fatal, told me that he believed he would have lost the whole ten but for a fortunate change of treatment to a more mild, nurse-like attention. He had two of the best physicians in the country, and they differed as to the general treatment, but the owner and father leaned to the milder mode. And I believe these very cases confirmed both those gentlemen in their own views, even to the treatment, the one of himself, the other of his family, according to them.

My present general treatment is to give moderate doses of blue mass and morphia, or Dover's powder, and if it need assistance, a very small dose of oil with a few drops of turpentine; to endeavor to control the purging with laudanum and starch injection; cup the abdomen, and cover it with mustard, to be removed as soon as it makes the patient restless. Panada, boiled milk, chicken water, to be given with or without appetite; cold water, if it lays comfortably upon the stomach, and occasional sponging with the same. When they begin to recover, I give wine in moderation, and a little solid food, such as stewed birds or fresh meats.

When this disease rages, it attacks all ages, sexes and colors, but with us it has generally been confined to young people, and been rather more fatal among blacks than whites.

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General Summary of the Metereological Observations made by the late Rev. John Allen, of Huntsville, Ala., for five years (1830 *to* 1835, *inclusive*), *and by J. Y. Bassett, M.D., in* 1850.

Annual mean of the sum of the mean temperature from 1831 to 1835	717°
Sum of the mean temperature of 1850	792°
Annual mean of the sum of the extreme monthly variations of temperature, 1831 to 1835	524°
Sum of the extreme monthly variations of temperature, 1850,	355°
Annual mean of the sum of the extreme daily variations of temperature, 1831 to 1835	331°
Sum of the extreme daily variations, 1850	249°
Amount of rainy days during 1831 to 1835	284
Annual average of rainy days, 1831 to 1835	56.80
Amount of rainy days during 1850	105
Amount of rain, in inches, 1831 to 1835	282.271 ins.
Annual average of rain, 1831 to 1835	56.454 "
Amount of rain, in inches, 1850	75.390 "
Prevailing Winds during 1831 to 1835	N.W. and S.W.
Ditto ditto 1850	S. and E. and S.W.

The original tables of Dr. Allen contain nothing more than a faithful record of the state of the weather, from three daily observations, made at morning, noon and evening, and were from 1829 to 1842, occupying near fourteen half quires of fools-cap, (the two first years without note of rain). With much labor and some care, I reduced them to twelve tables, each covering but little more than half a page, from which I have made the above abstract. I registered the state of the weather during 1850 with great care, and for the purpose of comparing with the above; therefore used the same modes of observation, having my thermometer, like his, in a freely ventilated passage. But wishing to go further, I used two others, one exposed to the sun, the other, shaded, in the open air; also, a barometer, on which I made midnight observations.

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METEOROLOGICAL OBSERVATIONS FOR 1850, AT HUNTSVILLE, ALABAMA.

MONTHS.	Barometer.			Thermom. attached.			Thermometer, exposed.					Days.					Amount of RAIN.	WIND.
	Highest.	Lowest.	Monthly Mean.	Highest.	Lowest.	Monthly Mean.	Highest.	Lowest.	Monthly Mean.	Extreme Daily Variations.	Extr. Mo'ly Variations.	CLEAR.	CLOUDY.	RAINY.	WINDY.	STORMY.		
January .	31st, 29°.84	20th, 29°.13	29°.51	31st, 84°	5th, 37°	60½°	9th, 85°	1st, 18°	51°	9th, 32—85=53°	67°	10	21	16	3	3	12 ins.	E., SE., NW.
February .	5th, 29°.96	13th, 28°	29°.45	28th, 75°	4th, 40°	55½°	26th, 98°	4th, 6°	50°	7th, 34—82=48°	92°	15	13	10	3	1	5.740	S., SE., SW.
March . .	4th, 29°.70	6th, 29°.12	29°.42	14th, 78°	27th, 41°	59½°	14th, 95°	28th, 30°	58½°	24th, 82—32=50°	66°	20	11	8	3	7	9.550	N., SE, SW.
April . .	23d, 29°.60	5th, 28°.94	29°.39	22d, 80°	27th, 47°	62°	29th, 100°	6th, 44°	64°	14th, 92—46=46°	56°	17	13	11	9	.	8.650	S., N., SW.
May . .	1st, 29°.71	15th, 29°.10	29°.40	27th, 90°	6th, 55°	71°	26th, 118°	6th, 50°	71°	26th, 118—65=53°	68°	21	10	9	6	.	8.700	N., E., SW.
June . .	.....	.....	.....	.....	.....	..	22d, 116°	12th, 59°	71°	11th, 108—62=46°	57°	19	11	8	.	.	3.500	S., N., E.
July . .	26th, 29°.59	22d, 29°.36	29°.47½	18th, 84°	21st, 66°	80°	11th, 135°	7th, 60°	84½°	7th, 130—60=70°	75°	16	15	13		.	4.450	E., SE., SW.
August .	2d, 29°.62	24th, 29°.27	29°.47	15th, 90°	26th, 75°	86½°	8th, 135°	30th, 66°	86½°	9th, 130—70=60°	105	19	12	10	.	3	9.300	NW., N., NE.
September	3d, 29°.60	19th, 29°.30	29°.48½	26th, 82°	2d, 68°	75°	26th, 120°	3d, 50°	81°	11th, 112—56=56°	70°	26	4	3	.	.	0.850	NE., S., E.
October .	28th, 29°.75	18th, 29°.26	29°.53	5th, 79°	27th, 50°	65°	15th, 114°	27th, 25°	70½°	27th, 92—27=65°	89°	20	11	1	.	.	0.200	NW., S., SW.
November	7th, 29°.80	28th, 29·31	29°.56	2d, 70°	18th, 40°	56½°	3d, 112°	18th, 14°	57½°	3d, 112—53=59°	98°	20	10	5	2	.	4.000	SW., SE., N.
December	8th, 29°.80	22d, 29°.00	29°.54½	3d, 66°	9th, 37°	51°	2d, 85°	9th, 15°	49½°	11th, 78—20=58°	70°	12	19	11	2	1	8.450	N., S., NE.
						65½			66⅙			215	150	105	28	15	75.390	SW., E., S.

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ARTICLE IV.

PROCEEDINGS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

Annual Meeting held in the city of Mobile, December, 1850.

THE noble efforts of the physicians of Alabama to cultivate medical science and maintain the honor and dignity of the profession, are worthy of all commendation. Their State Medical Association seems to be kept up with much spirit, and the proceedings of its last meeting, published in a pamphlet of 156 pages, contains much valuable practical information. The volume consists chiefly of reports on the medical topography, climate and diseases of the State, written in a plain, unvarnished style, but really valuable for the *facts* they contain. We shall take a cursory glance at the contents of this unpretending volume, and extract one or two of its reports entire.

The Association met in the Hall of the Mobile Medical Society, on the 10th of December, 1850, the President, Dr. A. Lopez, in the chair. The Secretary elect being absent, Dr. Geo. A. Ketchum was appointed *pro tem.* The number of members in attendance was not large, but many who could not attend sent in their reports.

The President delivered an *annual address* marked by much ability, and even eloquence. He expatiated on the existing state of the profession, pointed out its defects and requirements, and urged upon the members the importance of union, harmony, and energy of action. Dr. Lopez took this occasion to criticise very severely a work which had recently been published by a Northern physician (Dr. W. Hooker, of Connecticut), entitled 'Physician and Patient.' He pointed out many passages which he thought derogatory to the honor and dignity of the profession, and such as, he said, *ought not*, and surely *could not*, be sanctioned.

After this address, which was well received, Dr. Lopez read his report as delegate to the American Medical Association, at its meeting in Cincinnati, and a protest which he had felt it his

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duty to enter against a portion of the report to that body, on '*Medical Education.*' He said this report contained an imputation discreditable to the medical profession of Alabama, and he therefore felt bound to enter his protest against it.

All which was approved of.

The proceedings of this meeting, as taken down by the Secretaries, Drs. Ketchum and Barnes, are very full and satisfactory, and the best we can do is to give the following selected extracts from them.

DECEMBER 11th, 1850.

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The committees appointed under the fourth article of the fourth section were now called upon for their reports. The members of the committee present begged to postpone the reading of their reports until the next meeting, except Dr. Percival, of Church Hill,—who read an instructive report, embracing the details of cases of pneumonia; some badly treated cases of parturition, which had been attended by old women and other ignorant persons; several cases of measles, followed by hemorrhage from the bowels; many cases of paronychia and periostitis, purpura hemorrhagia, uterine diseases; and closed by remarks on the fearful increase of tubercular affections in his section of country.

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The Chair here called for the relation of cases of diseases occurring in the practice of the members.

Dr. Denny stated a case of prolapsus uteri, attended with much disturbance of the nervous system, and a continually costive condition of the bowels, with almost complete inability to void any fæces; purgatives and clysters failed to afford any relief. On examining per anum, an obstruction was plainly felt, which was supposed to be the prolapsed womb. It was found impracticable to elevate the womb from this position with the finger, and he therefore made a rectal bougie, with a piece of reed, and with difficulty introduced this some ten inches up the rectum. Much gas escaped, and on withdrawing the catheter, it was found filled with fæces. From this time the obstruction was removed, and the bowels acted well. The force used to introduce the catheter had elevated the womb from its misplaced position.

Dr. A. G. Mabry related the following particulars of a case of adhesion of the vagina:—

'A negro girl had been delivered of a child, twelve months previously. The placenta was retained several days, and came away in a state of putrefaction. She had much fever during this time, which Dr. M. supposed originated from inflammation of the womb and vagina. She was supposed, however, to have entirely recovered. She suffered at each return of her catamenial period most intensely. This was thought to be merely a functional derangement, until Dr M. examined her per vaginam, and found a complete occlusion of the vagina. A septum

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extended completely across the canal, and there was not even an opening that would admit a probe. The septum was a dense, inelastic tissue, or body, which separated the walls of the vagina. The Doctor commenced the treatment by making several incisions into this body, and introducing bougies, but owing to some bad management the incisions healed up, and it was necessary to repeat the operation again and again. After several operations, a bougie was introduced, and kept in its place by a T bandage, which eventually made a perfect cure.'

Dr. Mabry mentioned, also, two cases of strangulated inguinal hernia, upon both of which he operated, and relieved. The wounds healed by first intention, and he was led to believe the cure in each case would be radical.

Dr. R. Lee Fearn related the following very remarkable particulars of a case, where the impressions received by a mother, during pregnancy, affected the child in utero. A gentleman, whilst gunning, was shot through the metacarpal bone of the index finger. The wound was a bad one, and piece after piece of the bone came away. A few months after the accident he married, and in due season his wife bore him a child, perfectly formed in all respects. When about four months advanced in her second pregnancy, an operation was deemed necessary to remove the last remaining portion of bone in her husband's finger. She witnessed the operation, and was much shocked and sickened at the sight. When the child was born, it was found to be deficient in this very bone, though in all other particulars it was a well-formed child. The Doctor thought this was by no means the result of chance, but a very conclusive instance of cause and effect.

Dr. Dossey remarked that the relation of this case called to his mind a similar instance:—

'Dr. G——— was thrown from his horse, and broke his leg midway between the ankle and knee. His wife was about five months advanced in pregnancy. When the child of which she was pregnant was born, it had, on the leg corresponding with the injured limb of the father, and at precisely the same spot, the appearance of a fracture of the limb, and there was also a very decided shortening of the leg.'

Dr. Lavender mentioned two cases of scirrhus of the mamma, upon which he had operated with success, whilst the patients were under the influence of chloroform. It was duly admixed with atmospheric air. He had found strong coffee the best antidote to the unpleasant stupor produced by the inhalation of this article. After the above-named operation, he had put the patient on the use of iodate of arsenic, as he thought that the ultimate success of the operation depended much on the use of some remedy to act on the general system, and thus prevented the development of the disease elsewhere.

Dr. C. F. Percival expressed strong faith in the use of iodine in all scrofulous affections, and detailed the following particulars of a case that had fallen under his observation:

'A negro, with a strongly-marked scrofulous appearance, was put under his treatment for scrofulous swellings in the neck. A course of general treatment was commenced, but the master became impatient,

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and insisted in such terms upon the operation being performed, that the Doctor was compelled to use the knife. He removed the submaxillary, the sub-lingual, and some portion of the parotid glands. The glands in the axilla were somewhat enlarged, and the Doctor believed that the disease would be reproduced, unless some constitutional means were resorted to. He therefore used the iodide of mercury and Lugol's solution, and, in due course of time, the negro lost every appearance of either local or constitutional affection.'

Dr. Percival mentioned another case of this disease, of fourteen years' standing, in which this same class of remedies had been successfully used; the patient being entirely relieved of a most painful and loathsome form of the disease.

EVENING SESSION, 7 o'clock.

A quorum being present, the Association was called to order; the President in the chair.

The minutes of the morning session were read and approved.

The Chair announced that the reports of the committees on the Indigenous Botany of the State were now in order. Dr. N. Walkly, on behalf of the committee of Mobile county, presented a report, and gave a brief list of the indigenous medicinal plants of this section. The report was received, and referred to the Committee of Publication.

Dr. L. H. Anderson, of Sumter county, read a valuable report on the Medicinal Botany of Sumter, drawn up by Dr. D. R. Smyth, of Jones' Bluff. The report was accepted, and referred to the Committee of Publication.

The Secretary read a short report on the same subject, from Dr. W. A. Welch, of Talladega, which was received, and referred to the same committee.

The reports of the committees under the fourth section of article fourth were now in order, and called for.

Dr. W. H. Anderson, of Mobile, as chairman of the committee from Mobile, read a report embracing the history of diseases for the last year in Mobile; also meteorological tables, and the history of the dengue, as it appeared in Mobile in the summer and autumn of 1850. The report was received, and referred to the Committee of Publication.

Dr. Jackson explained, that owing to sickness in the family of the chairman of the committee appointed at Montgomery, there was no report from that district.

A full and able report, drawn up by Dr. H. V. Wooten, of Lowndesboro', was read by the Secretary—was received, and referred to Committee of Publication.

[We give this report in full.]—ED.

A report from Dr. L. H. Anderson, of Sumter county, was received, and referred to Committee of Publication.

The reading of essays, and the relation of cases, under the fifth section of the third article, was now in order.

Dr. Lavender, of Selma, read the history of a remarkable case of wound of the heart, penetrating the right ventricle, which recovered. The article was referred to the Committee of Publication.

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Dr. Percival mentioned the case of a man stabbed in the posterior thorax, who bled from the wound most profusely. At each inspiration, the blood was thrown out in a stream. The probe entered very freely into the cavity of the thorax. A double compress was placed over the wound, and the patient directed to remain quiet. In two days the wound was healed, and the patient entirely recovered, without the supervention of a single bad symptom.

MORNING SESSION, Dec. 12, 1850.

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Dr. E. Mason, of Wetumpka, read a report drawn up by Dr. T. W. Mason, of Wetumpka, on the diseases peculiar to each season of the year, and their dependence on climatic influence. Appended to the report was a tabular statement of the cases of disease that had occurred in his practice and in the State penitentiary at Wetumpka. These papers were referred to the Committee of Publication.

Dr. W. P. Reese read some interesting notes on marasmus, as it presents itself among the negro children of his district;—on pertussis, with an examination of the several plans of treatment proposed, in accordance with the various opinions entertained of the pathology of the disease; and typhoid fever as it occurs in this State.

Dr. Reese read also a report of the cases of disease that had occurred in his practice, including cases of pneumonia, bronchocele, suffocative catarrh, fevers and uterine affections. The latter class of diseases, he thought, were largely on the increase in this State. These papers were referred to the Committee of Publication.

[We make the following extract from this interesting report:—ED.]

'We have had under treatment during this quarter ending March 31st, fifteen or twenty cases of various uterine affections. Leucorrhœa, chronic metritis, chronic vaginitis, induration of cervix, one interesting case of granulation of the os, with the peculiar exudation so well described by Bennett and others, cases of prolapsus, etc. At some future period of our sittings, if agreeable, I will take pleasure in giving the details of some of the most interesting of these cases, that have occurred in my practice during the year.

'A perfectly healthy married lady is very rarely met with, as far as my observation extends, throughout South Alabama. We are to look to some one or all of the following causes: imperfect physical training under parental and boarding-school management, (mismanagement?) the still further enervating influence of our climate, and above all, early marriages, with all their train of ill consequences, "lay the foundation for a life of suffering and an early grave." I am one of those who believe that M. U. Gendrin, Emery, and Jobert, of France, and Bennett, of England, have contributed more toward the rational treatment of these diseases than those who oppose them have yet learned, although many of them are very respectable and very honorable men.'

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Dr. W. H. Anderson, of Mobile, read an original paper, entitled 'A Record of Medical Facts,' in which he detailed many interesting facts

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in relation to the use of cod-liver oil, in the chronic affections of the heart, chronic splenitis, chronic diarrhœa with rheumatism, chronic inflammation of the bladder, chronic nephritis, the diseases of the skin, scrofulous ophthalmia, rachitis, and chronic rheumatism with deposites.

The election of officers to serve for the ensuing year being now in order, the following gentlemen were duly elected:—

Dr. CHARLES F. LAVENDER, of Selma, President;
" WM. O. BALDWIN, of Montgomery, First Vice President;
" L. H. ANDERSON, Sumter, Second Vice President;
" W. B. CRAWFORD, Mobile, Third Vice President;
" A. LOPEZ, Mobile, Corresponding Secretary;
" GEO. A. KETCHUM, Mobile, First Recording Secretary;
" JOHN P. BARNES, Mobile, Second Recording Secretary;
" H. M. JACKSON, Montgomery, Treasurer;
" W. H. ANDERSON, Mobile, Orator;
" CHAS. F. PERCIVAL, Church Hill, Alternate.

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MORNING SESSION, Dec. 13, 1850.

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Dr. Dossey, of Mobile, offered the following resolutions, and urged their adoption by many very appropriate remarks, disclaiming, at the same time, all prejudiced political or sectional feeling, averring that he was actuated solely by the hope of elevating the standard of our profession in our midst:—

'Whereas the Alabama State Medical Convention feel deeply impressed with the importance of encouraging the growth of medical literature among us; therefore,

'*Resolved*, That, as a body, we will sustain by patronage, and, as far as we can, by articles contribute towards building up and sustaining the medical periodicals of the South and South-west.

'*Resolved*, That we deem it the duty of this Association to lend its influence and support, as far as practicable, to the medical institutions of our section, believing that the facilities for acquiring a thorough medical education are equal to those found elsewhere.'

Dr. Percival spoke warmly in favor of these resolutions. He thought we much needed a home medical literature, and that our patients were often the sufferers by our too closely adhering to the precepts taught in schools and books, by those who know nothing, *practically*, of the diseases of the Southern country.

Dr. Hicklin also spoke in favor of their adoption.

The resolutions passed unanimously.

Dr. Ketchum took this opportunity to call the attention of the Association to a Work that has directly in view the encouragement of Southern medical literature,—'Fenner's Southern Medical Reports.' He stated the difficulties the editor had to encounter in bringing out such a Work, and the aid which it was necessary for the profession to extend towards it, to secure its success.

At the close of Dr. Ketchum's remarks, Dr. Anderson, of Mobile, offered this resolution:—

'*Resolved*, That the Alabama State Medical Association highly appreciate the motives which induced the able editor of the 'Southern Medical Reports' to undertake his task, and being well satisfied of the

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practical utility of the Work, and the ability with which it is edited, they cordially recommend it to the faculty of the State, as a standard volume for any medical library.'

The resolution was unanimously adopted.

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Dr. Lopez offered the following resolution, which was unanimously adopted:—

'*Resolved*, That the thanks of the Association be tendered to the President, for the manner in which he has discharged his duties, and that it is deemed incumbent, before adjournment, to express its unanimous vote of thanks to the Secretary, for the fidelity and accuracy with which he has discharged his obligations.'

The Association then listened to the valedictory address of Dr. Lavender, in which he discussed, in an able and eloquent manner, the mutual obligatiens resting on the physician and patient. He told, in beautiful language, how faithfully the physician discharged his obligations; and his impressive farewell will long be remembered by those who had the pleasure of hearing him.

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On motion of Dr. Charles F. Percival, the Association then adjourned, to meet in Montgomery, on the second Monday of December, 1851.

ARTICLE V.

ON THE TOPOGRAPHY AND DISEASES OF LOWNDESBORO' AND ITS VICINITY, DURING THE YEAR 1850.*

BY H. V. WOOTEN, M.D.

Every physician acquainted with what is called 'country practice,' understands how difficult it is to make from it a report interesting and valuable to the profession. Our patients are often situated at such a distance from us, and are surrounded by such circumstances, as to render an accurate history of their cases unattainable. For the same reasons, we are unable to observe the particular effects of our remedies, for a knowledge of which we must depend, to a great extent, upon persons, often both ignorant and careless. The same causes prevent us from having our prescriptions fulfilled, or our directions obeyed, concerning the general management of the patient. And, furthermore, we are too often called to patients whose diseases have, from neglect, become complicated, and their recovery hopeless; and, finally, we are very generally denied opportunities of autopsic inspection.

For these reasons, I have determined not to present any tabular statement of disease, but to offer such general observations upon those

* From the Proceedings of the Alabama State Medical Association.

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diseases which have presented themselves most prominently; with such remarks concerning their treatment, and other circumstances attending them, as may suggest themselves.

In taking an account of, and reporting 'the diseases which occur and prevail,' in any particular locality, in order that such report should be understood, or useful, it is necessary that it be accompanied by some account of the situation and topography, as well as other circumstances attending the development of the disease mentioned.

In view of this necessity, I shall ask sufficient indulgence to admit a brief outline of the topography and population of the circuit over which my practice extends.

This circuit may be described as an irregular cone, with its base resting upon the left, or south bank of the Alabama river, and its apex lying in the prairies fourteen miles south from the base, upon a straight line drawn through the centre; upon the bank of the river, it extends about twelve miles on a line, but much more by the course of the stream. It is pretty well bounded, on each side, by creeks which arise in the prairies, and diverge until they reach the river. The circuit may be very well divided into three sections—the Flats, the Prairies, and the Ridge. The flats lie next the river, and occupy more than half the entire circuit. The soil of this section is the common gray and red land, of medium fertility, and a considerable portion of it is covered with ponds. These ponds lie in pretty well-defined rows, and, when full, often run together in the direction of the rows, (east and west.) They lie, generally, about 200 yards apart, and good observers here think that they cover about one-fifth of the entire surface of the section. A large proportion of the land is cleared and cultivated, though a very small proportion of the ponds have ever been drained. These ponds are generally full of water during winter and spring, which dries out during summer, the time of drying being governed by the rains. This year it occurred in May and June. When they dry thus early, they are often again filled, as they were this year, by the heavy rains, to be again dried in autumn.

The Prairies lie in the south-west half of the upper portion of the circuit, bounded by 'Big Swamp,' a large creek, with an immense overflowing bottom, on the south-west; by the Flats on the north, and the Ridge on the east. The surface of this section is undulating, and holds no stagnant water, except where the natural sloughs are obstructed. This is the smallest of the sections, and almost every acre is included in some plantation. The soil is black and fertile, possessing the usual characteristics of the prairie,—strongly impregnated with lime. The swamp has been very little broken into by clearings. The water of this section is bad, being usually turbid, offering a disagreeable odor, and exhibiting most strongly the character usually known as 'limestone.'

The ridge commences about three miles from the river, rises rather abruptly, about 200 feet above the level of the river flats, and runs southward, near six miles. Its ascent is very steep on the north and west, while on the east and south-east it slopes gradually to Tallawassee creek, forming an average breadth of about three miles. This ridge is an immense bed of water-worn gravel and sand, interspersed with

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strata of clay, based upon the great cretaceous rock, or limestone, which underlays this whole region of country, and was evidently formed by repeated alluvial deposits. On the north and west borders of the ridge, are found numerous springs of clear 'free stone' water, which never cease, or even diminish their flow during all seasons. These 'free stone' springs emerge from the ridge, from a fourth to a third of the distance from its base to its summit; while at the base may be found, in many places, springs of limestone water, many of which are tinctured with iron, magnesia, and a few with sulphur. About 300 yards back from this border, there is a ledge of springs, and from this over the remainder of the ridge they are both numerous and free, affording, at all times, a most bountiful supply of good water. There is upon the ridge no stagnant water, except a very small portion, where there are a few shallow ponds, that hold water but a very short time.

The village of *Lowndesboro'* is situated about midway of the north and south direction of the ridge, and immediately upon its western border. The village extends along the border of the ridge about half a mile, and contains about 500 inhabitants.

In regard to the population of the circuit described, I shall only speak of that portion of it to which I am the regular medical attendant, as this is the only portion with whose medical history I am sufficiently familiar, for the purposes of remark. The population of my practice may be seen by the following table :—

	Whites.	Blacks.
Flats - - - - -	172	1,169
Prairies - - - - -	37	840
Ridge - - - - -	354	1,092
	563	3,101
		563
		3,664.

These numbers are taken from the recent census returns, and it may be proper to remark, that many of the negroes — perhaps four or five hundred, who are enumerated as residing on the ridge, have simply their quarters there, while they work in the plantations of the prairies or flats.

In the first section, or Flats, the most prevalent diseases are those usually denominated miasmatic, or remittent and intermittent. Ten years ago, and previous to that time, the inhabitants expected an annual scourge from these fevers, and were not often disappointed. It was not uncommon, in those seasons, for almost every family in that section to be severely afflicted, while those of the ridge, except a few immediately upon its borders, were entirely exempt from these fevers. In 1840, this was especially the case; almost every house in the flats afforded a number of fever patients, while we scarcely met with any elsewhere. But cases of this class have gradually lessened in number as well as in violence, until they are but very little dreaded. Much of this is doubtless owing to the improvement in the treatment adopted. Formerly, the patient was dosed freely with calomel, by the unprofessional inhabitants, for two or three days, before a physician was called, and the arrest of the paroxysmal returns was never thought of, except in

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cases of clear intermission, and very often not in these. Many of the cases which are now promptly arrested at their onset, would, no doubt, prove violent and even fatal, if neglected or subjected to the course formerly adopted. Every year affords evidence of this. Yet, I am satisfied that, in all the old-settled plantations, the number of violent cases, even under the same treatment, would be found much more reduced. The class of cases called congestive fever was the great cause of terror to this section. These cases generally came on as very mild intermittents, or remittents: the second paroxysm frequently creating some alarm, though the danger was very often concealed until the third, which was always alarming, and often rapidly fatal. A more limited number of cases would pass through the three paroxysms, the remissions and exacerbations being scarcely perceptible, the patient remaining prostrate, cool to the touch, pulse extremely feeble, etc., reaction or death following the third paroxysm. These cases were very common ten years ago, but they have gradually disappeared. On an average, I have not met with more than two a-year, for the last five years. This year, I have seen but one. Excepting remittent and intermittent fevers, and their sequelæ, the inhabitants of the flats are more exempt from disease than those of either of the other sections. Pneumonia, typhoid fever, enteric diseases, etc., are very rare amongst them.

The Prairie section is less subject to miasmatic fevers. Indeed, when the inhabitants are not exposed to clearings in the swamp, or stagnant collections of water and vegetable matter by obstruction of the sloughs, etc., this section is as exempt from diseases of that class as any locality I have ever known in this latitude. Here, however, the diseases of winter are most frequently encountered. The soil remains saturated with water during the whole winter and until late in spring, and while in this condition the laborers cannot avoid cold, wet feet continually. In winter I find most of my cases of pneumonia, pleuritis, etc., in this section. There are often found here, also, cases of visceral obstruction, and degeneration, which seem to be insidious in their approach, and gradual in their ravages, resulting finally in anasarca, or other dropsical effusion, in which state the patient lingers and dies. These occur altogether amongst the negroes, and are caused, I think, by wet and cold, to which they are so much subjected. They are a careless, lazy set of creatures, and after the owner has exerted himself to protect them from exposure while in his service, they will heedlessly subject themselves to these hazards in a variety of ways, and suffer the consequences. Here, too, I find the negro women afflicted with menstrual obstructions, and every variety of disease of the sexual system, much more frequently than elsewhere. I have met with Cachexia Africana, or 'dirt-eating,' in no other section but the prairie, and amongst the negroes here it is not very uncommon. I have never had but two white patients thus affected, and they came from a prairie region, and while residing in the Flats, under the use of sulph. iron, got well in three months.

Persons who reside permanently upon the Ridge, very rarely suffer from intermittent or remittent fevers. In wet weather, during the heat of summer, however, these fevers do sometimes originate here.

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Small collections of water, with decaying vegetable matter, are easily produced by heavy rains, and obstructions of the natural drains. These collections dry up very soon, and are often very quickly reproduced, to be again dried. I have often had occasion to observe that persons and families residing very near these small distilleries of malaria are subject, during the season referred to, to attacks of these fevers, though I have never known a malignant or fatal case, thus produced. Persons residing immediately upon the northern brow of the ridge, which overlooks the valley of the river, sometimes suffer considerably from miasmatic fevers, and I have noticed that these visitations always accompany the prevalence of a north-east wind, which is apt to occur here in September. When the wind is from this direction, it sweeps down the river a distance of twenty or thirty miles, with nothing to obstruct or turn its course. The great swamp valley on the west of the village is, no doubt, as pestilent as that of the river, but fortunately the winds never come from that quarter in summer, except in rainy weather, and this border of the ridge is remarkably exempt from this class of fevers.

The inhabitants of the Ridge are decidedly more subject to inflammatory affections than those of either of the other sections; and this is most remarkably the case in respect to diseases of the alimentary canal. The fevers are very generally of this character. Typhoid fever is not an uncommon disease here, while it is very rare in either of the other sections. It is, also, generally marked in its first stage by a higher degree of febrile excitement than the cases which occur in other sections, and, in fact, the intestinal disease is more commonly attended with a general erythematous inflammation of the mucous membrane.

The village is divided by a street of 100 feet, running north and south, there being but a single row of habitations between the street and the brow of the ridge; and it is a fact, very generally observed and admitted, that persons residing in this row west of the street are more subject to disease than those on the east. In 1845, there occurred a remarkable circumstance, bearing on this point, which may be worth relating. A mixed and irregular form of scarlet fever prevailed. There were, upon the west side of the street—the dwellings generally fifty or sixty yards from it—eleven families, most of them containing a large number of children. The three first cases occurred on the same day, at three different houses; one at the north end of the street, another 300 yards south of this, and the other 200 yards still further south, between which and the south end of the town there was but one more house on that side of the street. Upon that side of the street there occurred about thirty-five cases and four deaths, while not a single decided case occurred on the east side, where the larger part of the population resided. This visitation was not brought hither by contagion; every fact disproved the idea, and it was not transmissible from one person to another here, because families within a few yards of the sufferers escaped entirely, while communication was not forbidden, and many members of the suffering families escaped it. But if it was brought upon the breeze, across the valley, as some supposed, why should it light upon some houses and miss others, which were intermingled in the same row? The intestinal diseases, to which young children are

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particularly liable, are far more frequent upon the ridge than in either of the other sections.

Thus much I have thought it proper to say, in regard to the 'locality' and its general liability to disease, before entering upon an account of the diseases which have 'occurred and prevailed' during the present year. I shall not, of course, attempt an account of all the diseases which I have met, but those simply which, from their number and gravity, present themselves prominently in the year's medical history.

January was wet, and frequently cold; the same may be said of all the months to May, making ordinary allowance for the advance of the season. May was unusually hot. June was hot and dry, until the last week, when we had bountiful rains; July was wet to the 10th, afterwards dry, and unusually hot. This extraordinary hot and dry weather continued until the 23d of August, when we had a full rain. Rain fell more or less, and sometimes heavily, every day until the 31st. From this time on, we have not had a full shower until the 20th of November, and so great a drought has not occurred since 1839.

The first disease which may be said to have prevailed in my practice, this year, was *Typhoid Fever*. In the months of December and January, I had nine cases in one family of twenty-eight. This family resided upon a point of the ridge which lies on its western border, overlooking the prairies. Those attacked were all negroes, from six to twenty-five years old, and one died. Death occurred on the seventeenth day of the attack. In those that recovered, the fever continued from twenty-one to thirty-six days. I could discover no local cause for the disease. Three cases had free hemorrhage of the bowels, and all recovered. Diarrhœa was the most prominent and obstinate symptom in the fatal case. For the first ten days, this case presented fewer grave symptoms than any one in the group. During the year, I have had twenty-six cases of this fever, five of which proved fatal; a much larger proportion than I have lost before. After the above nine, I had three cases in April, four in June, three in July, two in August, two in October, and three in November — four in the Flats; three in the Prairies, and nineteen upon the Ridge. One case in August had profuse hemorrhage from the gums and tonsils, and died on the twenty-first day. Taking the cases altogether, the proportion in which diarrhœa was exhausting, or obstinate, was unusually small, being not over one-third; although there was in all, at least a decided irritability of the intestinal mucous membrane. Prostration of all the vital forces was much more marked in cases of typhoid fever, this year, than has been usual here. Three cases presented a feature which was rather new to me. A description of it in one, will suffice for all. A white man, aged twenty-seven, had an attack of ordinary violence, which terminated fatally at the end of the fifth week. Although the tongue remained as dry as possible, and every other symptom of fever continued without abatement, the patient had, all the time, a craving for food, asking, and even begging, for any and every kind of diet of which he chanced to think. This craving was indulged to an extent which was thought sufficient to afford nourishment; and the diet used, which was as digestible and nutritious as could be selected, appeared to be well digested. During

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the last four days, about every eight hours, he would vomit a dark purple, sero-mucous matter, about half a pint at a time; still the appetite continued to the last.* This was the first case of the kind with which I had met, and fearing that I had indulged the appetite a little too much, the other two were treated more abstemiously, yet the symptoms, progress and termination, were the same, except that they both died about the twenty-first day.

In the *treatment* of this fever, I have not much to offer. Confined to the limit of a report like this, a subject so extensive and complicated could not be treated satisfactorily. In cases which manifest much irritation of the mucous surfaces, I generally employ the *copaiba* with confidence and success; accompanied, of course, with such other remedies as the case may indicate. In such cases as seem more to indicate the use of stimuli, I add, or substitute, the spirits of turpentine. I have rarely thought purgatives indicated, and generally apprehend mischief from their repeated action. For the intestinal disease, I never omit blisters, which I do not suffer to cease running entirely, until the disease is removed. In some cases of very low action, perspiring surface, etc., I have found much benefit from nitric acid, in doses of five drops, three times a-day. I have observed that, on the transition from the first to the second stage, which usually occurs from the seventh to the tenth day, there is a decided remission of all the febrile symptoms, for from one to three days. During this remission, I have, of late years, adopted the use of the ferro-cyanate of quinine, in doses of four or five grains, every four hours, continuously. This I have found to lessen the frequency of the pulse, relieve the nervous agitation, and, as appeared to me, in many cases, arrest the fever and induce convalescence. Dryness of the tongue, and even thirst, I do not view as forbidding the remedy, as I have repeatedly seen both subside under its use. I may further remark, that I have never seen a case which it appeared to aggravate in any respect. In speaking of typhoid fever, I wish to be understood as not including under that head those cases of remittent fever, which, with an *erythematous ileitis*, assume a typhoid type, and which are sometimes classed with that fever. I consider the diseases as very different, especially in their pathology, which point is not, however, suited for discussion here.

I have had, during the year, six cases of *Pneumonia*, three of them marked by much severity, but all recovered. In treating this disease, I must remark that for many years I have ceased to resort to antimony, as a leading remedy. So far from finding it the uniform sedative, which I had been led to expect it to be, it generally lessened simply the force of the arterial action, while its rapidity was proportionably increased. But my chief objection to its employment is, the gastro-enteritis which its constitutional use almost constantly induces. Nor have I witnessed the tolerance to its use, which is alleged by so many

* This was probably *black vomit*, which is a hemorrhage from the stomach. The humor spoken of is sometimes met with in yellow fever, and is a very bad symptom. Black vomit attends dysentery in New Orleans at any season of the year.—Ed.

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authors to be produced. On the contrary, I have usually found its regular administration for a few days, to produce so much irritation of the mucous membrane of the stomach and intestines, as to render it intolerant to this and almost every other medicine. As an expectorant, in combination with other articles, I sometimes resort to it with benefit.

Whooping Cough prevailed extensively during all the first half of the year, and with considerable violence, but presented nothing sufficiently remarkable to report.

Mumps prevailed upon the Ridge, very extensively, during the spring months; a much larger proportion of cases affecting the testes of males and the mammæ of females, than has been usual in my observation. Many cases were followed by pains in the frontal region, langor, feeling of exhaustion, nausea, and occasionally vomiting. These symptoms generally commenced about the time that the mumps proper was disappearing, increased for two or three days, then declined. This sequel to the disease I had never seen before. One complicated case of this disease proved fatal; a brief account of which may not be without interest. A well-grown, athletic youth, aged sixteen, had an attack of catarrhal fever, with considerable bronchial irritation. About the time he was convalescing from this attack, symptoms of parotitis began to appear. On the fifth day of this attack I was first called to him. Both parotid glands were much swollen, and he was laboring under high febrile excitement. He had considerable cough, and complained of some headache. During his catarrhal attack, he had taken cathartics, diaphoretics, etc., and was somewhat reduced, so that I adopted simply a mild course of palliatives. A day or two after I first saw him, one testicle began to swell, and very soon the other. These glands enlarged considerably, while the parotid diminished. He was kept in a warm, comfortable room, and was tenderly nursed. In eight days from my first visit, he was so far convalescent that I ceased attending him. He continued improving until, five days afterwards, he was up and dressed, but, contrary to the direction of his parents, left his room, went out, drank freely of cold water, etc. It was a cold day, with a sharp breeze blowing. Two hours afterwards he complained of a sharp pain, running from one parotid gland to the other, through the base of the cranium. I saw him at night, when the pain was excruciating, and the glands had begun to swell. Next morning the pain had abated, but the swelling had greatly increased. At the end of the third day of the relapse, the swellings were enormous, but the pain had nearly ceased, and his fever greatly abated. At this time I left, and was absent for two days. When I returned, I found that suppuration had taken place, and that Dr. Cilley, who had charge of the case in my absence, had opened the glands, which were both discharging pus quite freely. The whole of each side of the neck, face and head was now swelled to its utmost capacity, and evidences of *encephalitis* were clearly manifest. These symptoms continued and increased two days longer, when he died.

In regard to the treatment of this disease, generally, I may remark, that in several cases, in which the inflammatory symptoms were decided, and the febrile action was high, I resorted to direct depletion, pretty

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freely, and in all these cases, without an exception, the attack was evidently lessened, both in violence and duration; the secondary affections were avoided, and the disagreeable sequelæ, above referred to, did not occur. I have ever since regretted that I did not employ decidedly depletive measures in the fatal case, when first called to it. By comparing it with others, I find good reasons for the opinion that by such means it might have been saved.

During the months of May, June and July, there prevailed upon the Ridge a complaint, which I termed *Colic*. It was much like that which Dr. Fenner describes under the name of 'Epidemic Colic,' as prevailing last year in New Orleans. So far as I know, it attacked none but adults. The first cases which I saw, I thought were brought on by some ingesta which had disagreed with the stomach, etc., and this notion was favored by the circumstances that almost every one had been eating some unripe fruit, or fresh vegetables. After a time, however, I met with numerous cases, which satisfied me that such things were, at most, but exciting causes. The patient would feel, at first, 'cutting pains' across the bowels, which would occasion paroxysms of from one to five minutes, with intervals doubly as long. The pains would increase in violence until they would become insupportably severe, reaching their highest point of violence generally in six or eight hours. Some cases progressed more slowly, reaching their acme only in twenty-four or thirty-six hours. As the violence of the paroxysms increased, the intervals were shortened, until they were lost, and the pain became continuous, though varying in intensity. The duration of the complaint was various. Some few cases found complete and permanent relief in twenty-four hours. About the same proportion of cases continued for a week, and some few longer. In some cases, there was vomiting of bilious matter, which, however, seemed to afford little or no relief, except a transient respite from the sense of oppression and tension about the abdomen. There was generally no thirst, and the pulse was variously affected. In pure, unmixed cases, it was slightly accelerated, and its force a little increased. Pressure discovered no tenderness in any part of the abdomen, during the first stage, and there was no marked change in the temperature of the surface. If the complaint continued for two or three days, however, it was usual for all the phenomena of fever to supervene, with tenderness under pressure upon the abdomen, and the usual symptoms of inflammatory action.

But the symptoms which most distinctly characterized the affection were those of the negative class. Effectual vomiting, and free purging, either by cathartic medicines or enemata, gave little or no relief, although the stomach and bowels usually responded well and promptly to these agents; and although the patient might slumber under the influence of anodynes, his sleep would be disturbed by moans and contortions of the countenance, showing that his sufferings were not removed. I could make nothing of it, primarily, but a nervous affection, or *Enteralgia*. I could discover no circumstance, in connection with its prevalence, which could be assigned as its cause. Four cases occurred in a family, who had used water which passed a hundred yards through a leaden pipe, and four others in a house which was being

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painted inside and out; and if I had seen only these cases, I might, with some fairness, have attributed it to lead. But many others were affected, on whom this poison could have exercised no influence, and several families were as much exposed to it as these, and came off wholly unharmed.*

My treatment of this rather singular malady was not systematic, but rather experimental; I employed a variety of medicines and combinations in different cases, but deem it proper to mention such only as seemed most useful in relieving the patient. I found free bleeding more valuable than any single remedy. I resorted to it, not because it promised much under any ordinary principle of therapeutics, but because I had seen it spoken of by Drs. Smith and Bowers, of Texas, as very efficient in the treatment of '*Patent Dry Belly-ache*,' which I thought was about the same disease as the one under consideration. I afterwards had the satisfaction of finding that Dr. Fenner had used the remedy, with highly gratifying results, in the 'Epidemic Colic' of New Orleans. Free bleeding not only lessened the pain, but prevented inflammation, or reduced it if it had already set in; left the system more susceptible to medicines and more amenable to their influences. I varied my practice in the use of this remedy enough to fairly estimate its value, and I became satisfied that cases in which free depletion was practised in their early stages, were lessened one-half in duration, as well as in violence. After bleeding, I usually gave five grains of calomel, or blue mass, with a quarter or half grain of acet. morphinæ, every three hours, until four doses were taken; followed in three hours by castor oil and laudanum, or injections, as might be specially indicated. There was always more or less constipation, and although purgatives usually acted well, sometimes there was much difficulty and delay in getting the bowels to act. In one case, this was not effected until the injections were introduced far up the colon, by means of the flexible tube. For nausea and vomiting, sinapisms upon the epigastrium were serviceable, and large poultices of hops did much good in relieving the abdominal pains. If the pains still persisted, and tenderness ensued, blisters were often effectively employed, and anodynes and alteratives were, in several cases, continued for three or four days together. I found one case, a woman, in which the pain had existed and rapidly increased for eight hours. Her hands were spasmed, her breathing difficult, and she was in the most intense agony. An hour and a half previously, she had taken thirty drops of laudanum, which seemed to give no relief. I bled her freely; she still expressed little or no relief, and having a vial of *chloroform* in my pocket, I determined to try its effects. I gave her seventy drops in a little tea, and in fifteen minutes she was soundly asleep. She slept perfectly calm for three hours; awoke complaining of a little pain. A dose of castor oil, with half a grain of morphine, was given her. She complained of slight pains for twenty-four hours more, when she was permanently relieved. I gave chloroform in only one other case; it gave decided relief, but was not, however, so permanent. No case of the disease

* See Ohio Medical and Surgical Journal, March, 1851, for a similar disease, traced to the use of earthen-ware, having too much lead in the glazing.—Ed.

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was followed by paralysis; two were followed by jaundice. None were fatal; several relapsed partially, from imprudence in diet. This was a complaint with which I had never before met, and I do not feel well assured that I yet understand its pathology, or that *colic* is its proper name. I think it is the same disease, however, to which Dr. Fenner assigns that name, and I much prefer it, for obvious reasons, to the name which Drs. Smith and Bowers gave it, in Texas. And I may remark, by the way, that if any one in Texas has a '*patent*' for the complaint, we hope not to be held amenable to the law 'in such cases made and provided,' as our infringement was wholly involuntary. Nevertheless, we are ready to make all proper acknowledgments, etc. to Drs. S. and B., for the benefits derived from their suggestions in its treatment.

The great endemic of our climate, *Remittent Fever*, in its varied forms, has visited this locality very lightly the present year. I have had but two cases which can be of sufficient interest to relate. I will mention them only in outline. A gentleman, aged forty, was attended with the usual symptoms of chill, except that he 'did not feel cold.' For three or four hours he suffered greatly from a sense of oppression in the chest and epigastrium, which, however, subsided to a considerable extent, without any 'rise of fever.' He remained restless; pains in his limbs troubled him; he felt a constant difficulty of breathing, as though he could not inhale air enough. He was constantly disposed to move about, but was very easily fatigued. He continued in this state until the second day after that of his attack; when, about the same hour, he was suddenly taken worse, and sent for me. I found him pale, and struggling, with great difficulty of breathing: respiration was rapid and short, with frequent imperfect sighs. Complained of terrible sense of weight and stricture across the chest and epigastrium. Surface was *cool* and dry all over; great thirst and restlessness. Complained much of the fatigue it gave him to answer questions. His pulse was small and hard, and 120 to the minute. The impulse of his heart was *very strong*. I gave him six grains of sulph. quinine, with one-third grain of acet. morphine, and immediately bled him twenty ounces. A half hour after the bleeding I placed his feet in a mustard bath, and gave him half a pint of hot tea. He expressed considerable relief immediately after the bleeding, and at the end of an hour, he was in a warm, moderate perspiration: breathing easier than since the first attack; pulse 100,—full, but soft. He fell asleep, and two hours afterwards awoke, and expressed himself as entirely relieved. I prescribed quinine, taken so as to feel its influence slightly, until after the hour for the next paroxysm, and he complained no more. I fully believe that the third paroxysm would have proved fatal. I may remark, in relation to the treatment of this case, that I considered the bleeding an important part, as being adapted to the hard pulse, and firm struggling action of the heart. It is very rare that I find cases of this class in which I consider the remedy safe, much less needful; yet I have always resorted to it in cases *like this*, and have treated none more successfully. This case occurred in the prairies, on the swamp.

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The other case was that of a youth aged sixteen, who spent his school vacation in different sections of the country, and came home to the village with a double-tertian intermittent, having had both a morning and evening paroxysm. The day previous to his third *morning* paroxysm, he called and got some quinine pills, but said nothing about his case. The gentleman with whom he boarded had noticed that during the paroxysms he suffered much from diarrhœa, and that during the apyrexia he indulged in eating fruits, melons, etc., very freely. At 7 o'clock in the morning, his friends observed that he had diarrhœa, though he was up, walking about. The gentleman of the house rode off after breakfast, and left him at the gate. He walked into his room, and the lady of the house remarked to him that he should be taking his quinine, which, I suppose, he had until then neglected. An hour or so after this, she went to his room to see if he was attending to it, when his appearance alarmed her, and she sent for me. I found him with cold extremities; head and trunk moderately warm; pulse 140, very quick and weak; craving thirst, extremely restless, rather stupid, difficult to excite his attention, and answered questions irrelevantly; tongue pale and cupped, and a watery discharge passing *continuously* from his bowels, of which he appeared entirely unconscious. I applied sinapisms to the abdomen and extremities, and gave him a large dose of camphor, quinine and laudanum. I directed this mixture to be repeated every hour until the discharge was arrested, and left him, as I was at the time attending an accouchement. Two or three hours afterwards, Dr. Cilley visited him, and found him *in articulo mortis*. The bad symptoms had all continued to progress, except the discharge, which ceased soon after I left him. He died in spasms. About the time he died there appeared all over his body, but more conspicuously about his chest, neck and face, large lurid blotches, which remained until he was buried. This case pretty fairly represents a large class of the worst cases of what is most generally termed 'congestive fever,' and which prevailed so extensively in former years in the pondy and river lands of this region. How many of the numerous cases which occur now-a-days, and are checked before the third paroxysm, by quinine, as this might have been, would result as this did, if similarly neglected, as they formerly were, is a question of much interest.

In *surgery*. I have met with but little of interest, and will mention only a case of *spina bifida*. I shall mention this merely because it is a rare affection, and not for anything especially pertaining to the case. On the 1st of March, Mrs. S. was delivered of a fine, healthy male child, of good form and action, except that at the junction of the lumbar vertebræ with the sacrum there was a tumor, about the size and shape of the half of a hen's egg split in its longest diameter, presenting an oval surface outwardly, and its base towards the spine. By careful pressure, the borders of the bony deficiency could be distinctly traced, and it was found to be about two-thirds the size of the base of the tumor. The tumor was but moderately distended, and its integuments appeared to be about the thickness of the skin, except a point about the size of a five-cent piece, which seemed to be much thinner, and was slightly livid. By gradual and continued pressure, the liquid

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could nearly all be driven from it. At first, moderate pressure by a bandage was all the treatment attempted. When the child was five or six days old, I consulted Dr. Sims on the case. He advised a continuation of the bandage until it was found whether or not the tumor would grow, and if it became necessary to resort to more efficient and prompt measures, to use puncturation. The patient was the child of a retired physician; and while we were using this expectant treatment we wrote to Professors Meigs, Pancoast and Dudley, for their views on the subject. They all concurred in recommending the same course. On the 3d of May we carried the child to Dr. Sims. It had grown finely, and, except the unfortunate deformity, was a very fine, thrifty child. But the tumor had risen to double its original height, and seemed upon the point of rupturing spontaneously. Dr. S. advised that the liquid be gradually drawn off, and kept reduced by a systematic course of puncturing. He made, at the same time, two punctures, and relieved it of about two drachms of very clear water, which relieved the distension, reduced the tumor a little, and contributed much to the quietude and comfort of the child. Two days afterwards he punctured it again, and a few days after that the child was brought home. I punctured it daily, in two or more places, so as to reduce the distension, and take away half, and sometimes nearly all the liquid. If the operation was delayed beyond twenty-four hours, the distension was generally very great, and sometimes the tumor became very tense, even at the end of that time; and, indeed, this was frequently the case, unless, during the time, there had been considerable oozing from the punctures. The integuments gradually thickened, under the treatment, until they became very firm; but the sack did not appear to lessen, and the quantity of liquid was regularly increased.

After the first two weeks of the treatment, it was very evident the child was falling off, although it continued to nurse well, and gave no sign of general sickness of any kind. Its former plumpness was lost; its flesh continued to shrink, and its general decline grew more and more rapid, until the middle of June, when it died. After we found it declining so rapidly, the punctures were postponed or omitted as much as the rapid accumulation would permit; but whenever the sack became distended, the child evinced much uneasiness, and was unable to sleep well—which was always relieved by the puncture. The punctures were made with a cataract needle, ground to a point. It should be stated, that we never succeeded in applying the *pressure* satisfactorily to ourselves, or equal to what appeared to be the expectation of our counsellors. No *post-mortem* examination was made. There was nothing in the physical character of the child's progenitors, or any of its connections, which would account for the origin of the complaint. This was the ninth child of its parents, and the rest were remarkably well formed, and fully developed.

Obstetrics now form a very important branch of practice here. Very near all the white women, and many negroes, call for professional assistance in their labors. I have made more or less use of *chloroform* in these cases, pretty constantly, for the last two years, and I beg leave to mention, from my observations of its effects, a few points of

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interest. I use it by pouring one-half, to one drachm, upon a linen handkerchief, and holding it so that it may be freely inhaled, but well mixed with atmospheric air, and renewing it whenever it is evaporated or exhausted, if I wish to continue the effects at that time. I have found a very great difference in the susceptibility of individuals to its influence. It has not usually been my purpose to render the patient wholly insensible, and yet, so susceptible have I found some, that this point was reached before I had begun to look for it. The longest time that I have ever subjected one of these patients to its influence was three hours, but the anæsthesia was never complete. I have had several under its influence who declared that they had not the least memory of suffering pain during delivery, and for some time before and after. Several of these cases were marked with much rigidity, and strong expulsive force; yet in every one the uterine effort was responded to by the complaints of the patient, (though in a much subdued tone) with as much regularity as though they had taken nothing. One of these patients was so profoundly impressed, that her breathing was stertorous for some time, during all of which she complained at every pain. Others complained, spoke of their pains, asked for chloroform, and conversed intelligently while under its influence, and yet *remembered* nothing of it. So that the objection of Professor Meigs and others, that the use of this agent prevents the accoucheur from understanding the language of the pains, as to the progress of labor, etc., does not apply, so far as my experience goes. It appears to me, that while it certainly does lessen very greatly sensibility to pain, it also renders the subject *oblivious*, and that they actually suffer pain but do not remember it.

I have had three cases in which, by fair experiment, I was satisfied that it lessened the frequency, as well as the force, of the uterine contraction. These were all ladies of slender frame, delicate constitution, and highly susceptible nervous system. In several cases of tedious labor from rigidity of the soft parts, I have found this agent of great benefit in producing the desired relaxation. I have had but one case in which it appeared to produce any bad effect. A delicate lady was delivered of her sixth child, which was very large; and this, with her natural feebleness, rendered the labor tedious. She was more or less under the influence of chloroform, though never wholly unconscious, for three hours, during which time two ounces were poured upon the handkerchief. After delivery, the uterine contraction was pretty good, and there was no unusual amount of hemorrhage, for an hour, at the expiration of which time I left her. An hour after this I found her apparently in a state of syncope, pale, pulse scarcely perceptible, extremities cold, perspiration on the face, and frequent slight retching. I had no doubt that all this proceeded from flooding, but found, on examination, that there was rather less discharge than common. The uterus was rather relaxed, but contraction was easily excited, and produced no increase of discharge, which disproved the idea of internal hemorrhage. Every medicine which I attempted to administer was immediately rejected. Free air, constant stimulating frictions, etc., were the only remedial measures admissible; but the recovery from

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this fainting condition was very slow, and not complete under four hours. In this case, the immediate effect of the chloroform was very exciting, and as this state of depression followed the decline of that influence, and more especially as I had nothing else to charge it to, I considered it the effect of chloroform, with this proviso, that 'one case settles nothing.'

In the case of a negro woman, in which turning was necessary, the chloroform produced wild, raving delirium, when but three or four inspirations had been taken and which continued only three to four minutes after its withdrawal. It was thus given and withdrawn several times, with the same effect.

I had one case of *placenta prævia*, which resulted fatally to both mother and child. The lady had borne several children, and according to her own account had miscarried frequently, and suffered alarmingly from hemorrhage every time. Three years previously I had treated her for ulceration of the os and cervix uteri, which was apparently cured, and she became pregnant. She carried the child to the seventh month, which was thrown off. This premature delivery was attended with considerable hemorrhage, and followed by a fever of two weeks' duration. The ulcerations of the os and cervix again appeared, and, after several months' treatment, were cured. She became again pregnant; and in August last the fatal termination occurred. When I was called to her, she stated that she had some premonitions of labor, occasional slight pains, with slight hemorrhage, which was usual with her, and that she wished me to remain near her. She was not more than two hundred yards from my office, and I called upon her occasionally for twenty-four hours, finding her with no decided pain, and only occasional and slight hemorrhage. About the end of this time I was summoned in haste to her. I found that she had but one decided pain, and had flooded alarmingly. On examination, I found the vagina filled with blood, the os uteri dilated to the size of a dollar, and the *placenta covering it completely*. Passing my finger round, I found it partially detached, but adhering, in part, in all directions. I found the os hard and firm in places, from cicatrices, and difficult to dilate. I passed my fingers up, separating the placenta on one side, passing the head, found the feet of the child, and brought them down. The rigidity of the os impeded somewhat the delivery of the head, but from my first examination, to the delivery of the child, only about fifteen minutes elapsed, during which there occurred four good pains. The placenta followed the child immediately. The hemorrhage continued free during the delivery, but so soon as this was completed, it ceased almost entirely. On commencing delivery, I gave her a large dose of ergot, and another about its completion, which seemed to act very well, as, considering her exhausted state, the uterine contraction, on and after the delivery, was remarkably good. The hemorrhage was very well arrested, and all the usual means of keeping it so were diligently applied, as well as all the restoratives at hand, to restore the patient from the state of almost continuous syncope which she was in. One hour had elapsed, and we had some hope of recovery, as a very slight reaction was observable. But, unexpectedly, she

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suddenly made a powerful exertion, and threw herself from her position, over upon her side, which seemed to exhaust her completely. She fell into a state of syncope more completely than ever; there was an increase of hemorrhage; all our efforts could produce no reaction, and she died in an hour and a half from the time she was delivered. In the management of this I was kindly assisted by Dr. Cilley. The child wanted, I thought, a month of its full term, and was lost by the delivery. Notwithstanding the patient was previously delicate and feeble, and had flooded immensely, I was of the opinion that if she could have been kept perfectly still in her place, she might have been saved.

In this department of practice I have had a good number of complicated and interesting cases, which I had intended to report to the Association. The larger portion of these were amongst negroes, and were rendered complicated and difficult by neglect, or bad management on the part of the midwives in whose hands I found them. I will not, however, trespass farther upon the attention of the Association, which I have already taxed too heavily. Some of these cases would illustrate the happy effects of the extract of belladonna in relieving rigidity of the os uteri and perineum in labor. I use it by vaginal injection, mixed with warm water, as recommended by Professors Eve and Cenas. I have had in my practice twenty-seven deaths, sixteen whites and eleven blacks; the number of whites being more than double that of any previous year in the last five, (during which time I have practiced without a copartner).

	Deaths.	*Whites.*	*Blacks.*
Infants	- - - -	6	5
From 3 to 15 years -	-	0	2
Adults	- - - -	10	4
	Total -	16	11

Of *white adults* there died of phthisis, 2; chronic diarrhœa, 2; Ileitis, (second relapse) 1; obstructed bowels, 1; accouchement, 1; parotitis, 1; malignant intermittent, 1; typhoid fever, 1. *Infants*—Whooping cough, 2; spina bifida, 1; enteritis, 2; chronic diarrhœa, 1.

Black adults—Chronic pericarditis, 1; chronic hepatitis, 1; typhoid fever, 3. *From 2 to 15 years*—Of typhoid fever, 1; cerebral meningitis, 1. *Infants*—Concussion of brain, 1; diarrhœa, 2; whooping cough, 1.

This includes all the deaths of persons belonging to my circuit of practice, who came at all under my prescription. A goodly number of these were not regular patients. The four first-named cases of white adults were old persons. It is possible that there may have died others, of whom I have not been informed, such as negro infants, etc., but I am sure that the number of such must be *very small*, if any. The number who die without the attention of the physician is *very* small in this region. We have no *natural* or *patent* doctors.

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ARTICLE VI.

REMARKS ON THE GOOD EFFECTS OF LARGE DOSES OF THE SULPHATE OF QUININE IN CONTINUED FEVER.

BY THOMAS FEARN, M. D., of Huntsville, Ala. (In a letter to the Editor.)

In the summer of 1831 a disease of great violence broke out in the family of Mr. Groce Scruggs, six miles north-east of Huntsville. His house was situated on a dry, gravelly hill, about one mile west of Flint river, and his negro houses on the side of the hill, near his residence. The family had been unusually exempt, both before and since that period, from the bilious fever which prevailed very generally in that country in its early settlement.

The first case occurred in his daughter—eighteen or twenty years of age,—was mild in its commencement, and so slow and insidious in its progress that the physician in attendance discontinued his visits two or three times, but was recalled. It terminated in well-marked typhus, and the patient expired at the end of some six or eight weeks, the disease, in her latter days, being attended with low, muttering delirium, hemorrhage from the bowels, cough, parched, red tongue, narrow and pointed, gums livid, and teeth loaded with sordes. All the usual remedies had been resorted to, but without seeming at any time to check the progress or change the course of the disease.

Before this case had run its course, several others in the family, and some twelve or fifteen of the slaves, were attacked with the same disease, the latter cases running their course in rather shorter time. The lancet had been used freely in the earlier stages of some of the cases. Mercury, both internally and externally, had been pushed to ptyalism?—the cold dash blister, and all the remedies usual in such cases. Two or three others had died, and not one was convalescent. A Thompsonian, or steam doctor, had been called in to try his practice on some of the negroes, who promised confidently a cure in a week, but after trying his skill for double that time, without mitigating the symptoms in a single case, he took the disease himself, went home, and ultimately fell a victim to his abortive attempt.

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The white family were removed to the house of a friend in the neighborhood, and the negroes were removed to a high, airy situation in the woods, under the shelter of tents and shanties.

At this period (about the month of August), Miss Julia, the daughter of Mr. Scruggs, aged sixteen or seventeen, complained of slight indisposition, and, upon calling to see two of her little sisters who were lying in the same room in a dying condition, I was asked to examine her;—found her tongue preternaturally red, pulse frequent, tenderness upon pressure over the region of the stomach, with some uneasiness and giddiness of the head. Upon giving my opinion that she had the same disease, she threw herself on the bed, and sobbed and cried as though I had pronounced sentence of death against her. I cannot recollect, at this distance of time, what remedies were prescribed in her particular case. She was attended by my former partner, Dr. Erskine, and Dr. D. M. Wharton, who had attended in the previous cases, after Dr. E. and myself had been called in consultation to the first sister, who died.

The disease went on increasing in violence for about three days, the fever being at its acme about twelve or one o'clock at night. In consultation it was determined, that when the state of greatest abatement of fever, or nearest approach to apyrexia next occurred, which was expected in the latter part of the night, twenty grains of sulphate of quinine should be given at a dose, and repeated once or twice, until two other doses were given, unless some unfavorable symptoms contra-indicated. This duty was assigned to me. When the fever was at its highest, there was slight delirium, great distress about the pericordia, and tenderness on pressure, with rapid, small pulse, and hot skin. When it began to abate, the dose agreed upon was administered. No very sensible effect was observed, and at the expiration of an hour the dose was repeated. Before the expiration of the second hour, the pulse was reduced in frequency, and was softer than it had been since she was taken ill. The skin, for the first time, was moist, and she was more composed, nevertheless the third dose was given at the end of the second hour. Shortly after, she became quite tranquil, and fell into a sweet sleep,—perspired freely,—

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pulse became reduced from 120 to 80 in the minute, and from that time she was convalescent.

Her brother, J. W. Scruggs, was treated in the same manner, a few days after, and with the same success. The gloom which had hung over this distressed family, and the panic which had spread through the neighborhood and cut off all communication, except with a few devoted friends, now subsided. The other sick were put under the same course of treatment, and all in whom the disease had not progressed too far were cured. At first the disease had been confined to this family, but shortly before this period it had appeared on a neighboring plantation. The negroes were removed and camped in the woods, as in the preceding, and, under the quinine treatment, were generally cured.

That honor may be rendered to whom it is due, I must here state that I was indebted for this practice to some remarks by an English surgeon of the army or navy, I think, in the West Indies, a few years before, which I found in a New York medical journal. I regret that I cannot recollect the name of the surgeon, or the journal in which I saw his remarks.

One thing was evident—that the ordinary remedies, in the ordinary doses, would not cure in this disease; and if, in some extraordinary states of the system, as *mania à potu* and other cases, the proper remedy is inert or hurtful in common doses, and will cure in large doses, why should not some forms of fever admit and demand the same increased doses?

Some account has been given of my treatment of one case of bilious pneumonia with large doses of quinine, by Dr. May, in a letter from me which he published, many years ago, in the 'Transylvania Medical Journal'.* One slight error was, however, made by the Doctor, which you may correct, should you at any time think proper to notice this subject. He states, 'The paroxysm did recur,' or words to that effect (I quote from memory); he should have said, 'The paroxysm did *not* recur.' Another circumstance, which, in justice to myself, I must state: it was not intended by me that any more quinine should have been given during that remission, after the three heavy doses, and the

* Transylvania Journal of Medicine, November, 1836.

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two or three ten-grain doses subsequently given were by the attending physician, after I had left, and in misapprehension of the plan that had been agreed upon. Had they not been given, it is probable that the blindness might not have occurred, or, at least, not to the same extent, and my treatment of the case would not have called down the criticism of a distinguished Eastern professor, 'that the treatment was very good, but he thought there had been rather a waste of the article.'

New Orleans, April 9th, 1851.

[The foregoing remarks, from one of the most distinguished practitioners of the South, (but long since retired from the profession,) cannot fail to be interesting to many of our readers. Dr. Fearn is a striking example of those able, practical minds, that have adorned our profession in various sections of the South, commanding an extensive and deservedly high reputation, but terminating their professional career either in death or retirement, without leaving any thing on record to perpetuate their names. With a capacity for distinction in any pursuit he might choose to adopt, he has for the last ten or fifteen years been a prominent commission merchant, of New Orleans, and it was not without considerable persuasion, that we prevailed upon him to write this short communication.

In our first volume, we endeavored to correct an error into which Dr. Farrar, of Jackson, Miss., had fallen, in giving to Drs. Fearn and Perrine, of Alabama, the credit of introducing the practice of giving large doses of quinine in the treatment of our endemic malarious fevers, and we stated that Drs. Perrine, Metcalf, and others, about Natchez, had given as high as *eight grains* at a dose, every two hours, *fever or no fever*, so early as 1823. An interesting account of this practice may be found, in Dr. Cartwright's able paper, on the malignant fever of Natchez, in the Medical Recorder, vol. ix., for January, 1826. This practice was introduced by Dr. Perrine, who lived ten or fifteen miles in the country; but Dr. Cartwright says that he and Dr. McPheeters found it very successful. It is true, these doses were far below those of Dr. Fearn, but it must be considered a very bold practice, when we recollect that the ordinary dose of quinine, at that time, was from the *half to one grain*. It is passing strange that the discovery by Dr. Perrine and the Natchez physicians, of the good effects of liberal doses of quinine whilst the fever was up, and the still greater discovery of Dr. Fearn, of the *direct sedative, or abortive powers*, of the same remedy in half-drachm doses, at a little later period, were not immediately followed by a complete revolution in the whole treatment of malarial

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fevers; but this is not more strange than the fact, that the physicians of the North are only just now beginning to learn the good effects of liberal doses, during the *remission* of fever, and have not yet ventured to use it in full force, as an *abortive remedy*. The progress of improvement, in medical practice, is slow indeed. Even now *we are in the midst of a revolution*, as regards the *therapeutics* of our endemic summer and autumnal fevers; and the *van guard* of the profession will probably pass off the stage of action, long before *the rear* catches up with the improvements they have discovered! The great body of the profession has yet much to learn respecting the remedial powers of this wonderful remedy.

The contents of this volume, and the medical journals of the day, show that the sulphate of quinine is generally condemned as a remedy for typhoid fever; but whilst our experience has been too limited to entitle us to speak authoritatively on the subject, we cannot help thinking this judgment has been pronounced too hastily. Gentlemen say they have given the remedy *a fair trial;* but, with all deference, we must be permitted to say we have not seen a case reported in which we should consider that it had a fair trial. We can readily conceive of the difficulty of giving it such a trial in this type of fever, on account of its slow and insidious manner of attack, and the lateness of the period when the physician is generally consulted. Quinine, in large doses, must be given in the *forming stage* of the fever, or it had better be withheld altogether. We should say it should be given within the *first two days*, or *three* at farthest, from the time that fever was perceived, if we are to expect the disease to be cut short; but how is this to be done when the patient cannot convince himself that he is sick under three or four days, and seldom consults a physician until five or six days have elapsed? If Dr. Fearn had waited a day longer, it is not at all unlikely his bold experiment would have failed. But where is the writer of this day who reports such a trial as he made with this remedy twenty years ago? We have met with none such in our reading. It is vain to expect that *ten* or even *twenty*-grain doses of quinine, given on the *eighth* or *tenth* day of this fever, will cut it short. For ourselves, we should expect more harm than good from such practice, and are therefore not at all surprised at the general condemnation of the remedy by recent writers on typhoid fever in the Southern and South-western States. If the practitioner is not sufficiently familiar with the action of quinine in large doses, to venture on from twenty to thirty grains in combination with one or two grains of opium, and, perhaps, ten of calomel or blue mass, at *one dose, and within the first two or three days of the attack*, we would advise him not to tamper with this remedy at all, but *carefully nurse the patient through the natural course of the fever.*

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We would not be understood as confidently recommending the *abortive method* of treating typhoid fever, for our experience has been too limited to authorise us to do so; but we will say that, if we intended to practice it, something like the plan just mentioned would be the one we should adopt. We can but think that the *typhoid fever* of the South, which seems to have so greatly increased of late years, is *one of the Protean forms of endemic malarious fever*, and as such, we should expect quinine to cure it, *if rightly administered.* Twenty years ago, Dr. Fearn *cut short* and cured the most desperate cases of continued fever by large doses of quinine, when every other plan of treatment failed that was tried; and fifteen years since he wrote that the practice of himself and his able partner, Dr. Erskine, in *remittent fever*, was, 'to give three doses of twenty grains each, with an interval of an hour.' He says—'The effects were, almost invariably, to reduce the frequency of the pulse sometimes from 100 to 60, and even to 50 in the minute, to produce perspiration, ringing in the ears, partial deafness, and, in two or three instances, blindness or obscurity of vision. These effects have never been known by us to be permanent, or to continue longer than a few days.' (*Transylvania Journal of Medicine*, 1836.) We are free to confess that these able practitioners had gotten a long way ahead of the profession in respect to the use of quinine; at the same time we do not hesitate to express the opinion that they gave it *much more freely than was necessary.*—Ed.]

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REPORTS FROM GEORGIA.

ARTICLE I.

ON THE VITAL STATISTICS OF HANCOCK COUNTY, GEORGIA.

BY E. M. PENDLETON, M.D., of Sparta, Ga.

[We have been favored with but one report from this State, and that is from our able and esteemed correspondent, Dr. Pendleton. We were so much pleased with this report that we allowed our friend, Dr. Hester, to publish it in his Medical Journal, under the hope that it would call forth similar papers from various sections of the country. In this we have been disappointed, with the exception of Dr. McKee's vital statistics of a portion of North Carolina.

The State Medical Society of Georgia held its annual session in April, at Atlanta, where, we learn, there was a very respectable attendance of members; but we have seen no account of its proceedings on this occasion. Dr. R. D. Arnold, of Savannah, delivered an able and eloquent anniversary address, a copy of which has been kindly sent us. —Ed].

The theory of probabilities has become of such interest at the present day, that statistical information is sought after with the greatest possible avidity, in the elucidation of almost every science. Founded as it is in the inductive system of Bacon, though originating more immediately with Pascal, the French mathematician, this calculus has been laboriously prosecuted by M. Louis, M. Quatelet, Boussingault and others, until the most astounding facts have been presented to the scientific world for their investigation and confirmation. Among other curious things, it has been demonstrated, that a flower will bloom when the sum of the squares of the daily mean of temperatures reaches a certain point from the last freeze of winter. Thus, it has been ascertained that the common lilac blooms when this sum reaches 4264° of the centigrade thermometer, and it is believed by some medi-

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cal philosophers that similar demonstrations will be made in relation to malarious fevers and other diseases. Certain it is, that what happens in a thousand well-authenticated cases, will likely happen in the next thousand, and in each ten thousand the variation will scarcely be a hair's breadth; larger sums still will evince an exactness as certain as destiny itself. It is so of marriages, births and deaths, and all the operations of society, as well as of nature. Climate, with all its variations,—the seasons, with their annual visitations,—the moon, with its devious phases—all are governed by the same immutable laws, when brought to the test of this unvarying calculus. We are pleased, then, whenever we can add a mite to the great store-house of human knowledge, and have seized upon the abundant material afforded by the census of 1850 to add something to the vital statistics of the country.

The meagre reports of a statistical character, touching the science of life, heretofore offered from the rural districts of the South, will be a sufficient apology for our present undertaking. The absence of every thing like sexton's reports, records of births, deaths, etc., for the country, has prevented almost *in toto*, up to the present time, any contributions to this department of statistics. We have now a favorable opportunity of contrasting the health, longevity, etc., of the country with the densely inhabited and unhealthy marts of commerce. It will not be a theme for wonder should the contrast be largely in favor of the pure uncontaminated atmosphere of the country. I have only to regret, that the number of cases is not sufficiently large to warrant a just ratio in every particular for the country at large. The late period at which the census returns have necessarily been made, prevented my getting but the single county of Hancock, and but for the politeness of the deputy marshal, L. S. Stewart, Esq., in giving me early access to his papers, I should have failed to present even this paper in time for publication.

One more remark, by way of preface and explanation. Although our main object is to show the vital statistics of the district in question, yet we shall take the liberty to notice such collateral points, and draw such practical deductions, as we may deem of interest to the general reader.

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What we said as to the topography and climate of Middle Georgia, in the first volume of the Southern Medical Reports, will, in a great measure, apply to Hancock county. It will be sufficient for us to repeat, that this district is divided nearly equally by a primary ridge, below which there is no granite: north of this ridge is a valley with metamorphic strata, as mica slate, gneiss, hornblende, schist and other felspathic rocks, the decomposition of which has rendered the Shoulder-bone lands so famous for agricultural products. This is an oak and hickory region, with a tenacious argillaceous soil, and more than two-thirds of it have been subdued by the axe and the plough, much of it worn out and washed into gullies by the wretched system of planting at first adopted in this region. Thanks to the progress of agricultural science, this suicidal policy has been arrested to a considerable extent, and we may hope better things for the future. The southern half of the county below the ridge is a level pine woods with a sandy loam, except some nooks on Buffalo creek, which seem to have been small promontories, jutting into the vast Eocene sea, which once spread its immense waters over the pine regions of the South.

With regard to the climate, it is proper to state, that it is genial in every sense of the word, freed from the long-continued heat of more tropical climes, and the extreme cold of northern winters. As a better index, however, to this part of the subject, we beg leave to present a Meteorological Table kept by us at Sparta, for the year 1850. This village is situated near the centre of the county, on the granite ridge above mentioned, 33° 16′ north lat. and 6° 8′ west long. from Washington; altitude above the level of the sea, 550 feet. The thermometer hung in an eastern porch for the morning observation, remaining out all night, and in an airy parlor of a wooden building during each afternoon, except in cloudy weather, so as to prevent the direct influence of the sun. The barometer was always suspended in the open air at the time of taking observations, as it was found to vary somewhat when carried into an apartment, from fire or other causes inducing changes in the atmosphere.

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MONTH.	Barometer.	Thermometer. — Mean.	Range of Thermometer.	Clear Sky.	Cloudy Sky	Rain, in Inches.	WIND. N.	S	E.	W.
January..	29.36	52.5	12.6	213	417	6.26	30	17	29	21
February.	29.35	49.4	14.9	255	305	4.27	25	23	21	31
March ...	29.39	55.6	13.6	217	405	7.70	31	22	27	23
April	29.40	63.3	15.6	205	395	5.41	27	26	20	32
May	29.37	68.8	13.7	357	263	4.17	38	17	32	22
June	29.40	76.0	14.8	332	268	1.03	28	20	46	9
July	29.38	80.5	12.6	332	238	5.23	47	10	26	23
August...	29.38	80.5	13.9	370	250	3.64	27	23	33	21
September	29.39	75.4	15.7	353	247	0.35	49	7	36	10
October ..	29.40	63.2	19.4	465	155	2.48	39	15	35	20
November	29.46	55.1	16.9	362	238	5.45	42	17	23	26
December	29.44	51.3	12.5	198	422	7.27	38	21	28	28
TOTAL..	29.39	64.3	14.6	3659	3653	53.26	421	218	356	266

The mean of the thermometer is taken from the maximum and minimum points, as it is found that the daily and nightly range varies but little for a month, and consequently affords a good index to the average temperature. The range of the thermometer is calculated from the sum of all the daily and nightly ranges, from the maximum to the minimum points, and *vice versa*. The clearness of sky is indicated by a scale from 0 to 10 at both daily observations, which, for a month of thirty days, would run up to 600. When the sky is entirely beclouded, it is indicated by 0, when entirely clear, by 10, and so in regular gradation; and the sum of all these for the month forms the column for 'clear sky,' and the remainder, that for 'cloudy sky.'

The year has been remarkable for its extreme heat; not only during the summer months, but the total mean of temperature is higher than usual, even in comparison with the city of Augusta, supposed to be a much warmer place. Thus, the total mean of four years in that place was 62.4, the warmest year being 62.9, making a difference of two degrees nearly against the present year at Sparta. More rain has fallen within the year than fell at either Augusta or Athens for any year during the last five, notwithstanding the crops were seriously injured by the summer drought. It is a little remarkable, that the sum of all the figures in the scale of clear and cloudy weather should differ so little, preponderating in favor of the cloudy by only six out of 7312.

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We presume the year was cloudier than usual, though we have no data by which to form an estimate. Northern and eastern winds prevailed, as probably they do every year in this latitude, notwithstanding the accredited theory is that western winds prevail in the northern hemisphere. This has been established, no doubt, at many points, but there are so many counter-currents, and other causes, operating in different countries, that it is hardly to be supposed that any theory can apply with full force at a given point until it has been substantiated by statistical facts.

The following table exhibits, at a glance, the whole population of Hancock county, as to races, sexes, relative ages, etc.

YEARS.	CAUCASIAN.		AFRICAN.		MULATTO.	
	Males.	Females.	Males.	Females.	Males.	Females.
Under 10...	623	584	1185	1010	82	115
10 and 20...	549	486	887	937	49	74
20 " 30...	349	374	649	551	43	56
30 " 40...	233	213	308	357	14	22
40 " 50...	160	164	253	211	9	10
50 " 60...	110	123	145	126	9	6
60 " 70...	76	62	77	76	4	3
70 " 80...	29	32	31	36	0	2
80 " 90...	9	21	13	11	0	0
90 " 100...	1	2	4	4	0	0
Over 100...	0	1	2	10	0	0
TOTAL....	2139	2062	3554	3329	210	288

This makes the total of whites 4201; blacks, 6,883; mulattoes, 498: total colored, 7,381. The whole population for the county, as it appears on the census book, is 11,617, being thirty-five more than is shown by the above table. The population for 1840 was — whites, 3,713; blacks, 5,967, being an increase for the last ten years of 13.4 per cent. for the former, and 23.6 for the latter. There are two causes for this rapid increase of the black over the white population: one is, the emigration of the smaller planters to the West, and the other is the repeal of the law prohibiting negro speculating in the State. The total males is 5,903; females, 5,679. It is a little singular that the males should predominate so considerably in the pure races, while the females are largely in the ascendant in the mongrel race. Should this ratio prevail throughout the whole South, as it probably will,

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it involves a physiological fact well worth the attention of the scientific world.

We next come to the longevity of the different sexes and races; and here we offer a Table, exhibiting the number of each of these classes in every thousand who have reached each decennial period from ten to one hundred years.

CLASS	10 yrs. to 20.	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100.	Over 100.
White	712.6	466.3	294.2	188.0	110.9	55.4	22.6	8.09	0.95	0.23
Black	681.0	414 6	241.7	145.1	77.7	38.3	16.1	6.39	2.90	1.74
Mulatto	604.4	357.4	158.6	86.6	48.1	18.0	4.0	--	—	—
Male,	679.8	428.2	251.9	159.5	86 3	41.6	15.0	4.91	1.18	0 33
Female,	699.0	435.4	262.7	158.4	90.6	45.7	20.9	8.62	2.99	1.93

This table proves beyond doubt that the mulatto is much shorter lived than either of the unmixed races. Thus, only four in one thousand reach seventy years, to 16.1 of the black, and 22.6 of the white. A similar ratio is maintained throughout. It is true, that the disparity may be somewhat greater, owing to the short period of time since the two races have intermixed, making individual cases of longevity among the mulattoes rarer than it might otherwise be; but apart from the exhibit of this table, it has become almost proverbial among physicians, that the mulatto is more subject to certain forms of incurable disease, and succumbs more rapidly to the invasion of others, than either of the pure races. But it seems that while there are many more centenarians among the blacks than the whites, they are not, taken as a whole, so long lived. Whether this is owing to a critical period in the life of the negro, as with the female, or that the centenarians are the last of the native Africans who were brought to this country, and have not felt the blighting effects of civilization which has shortened the lives of their degenerate sons, I cannot say, but am rather disposed to take the last as the most philosophical view. If this be true, we may expect, in a few more years, that extreme cases of longevity will predominate among the whites. As to the sexes, the table proves that a greater number of females reach forty years of age than of males. From forty to fifty, the males get the ascendency, showing that this is the crisis of woman's life, and that many more die at this period than

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even during the age of child-bearing. At fifty, however, they more than recover their lost ground, and maintain it with an increasing ascendancy to the end of the race, insomuch that nearly five females to one male arrive at the advanced age of a century.

The number of deaths for the county was 129 for the year ending the 1st of June, 1850, being 1.12 per cent. for the whole population, and actually less than any other county or district within the range of my knowledge, except one. From recent returns from five other counties of Middle Georgia, the per cent. of deaths stands, for Fayette, 1.11; Meriwether, 1.27; Jefferson, 1.32; Morgan, 1.96; Burke, 2.02. The whole population in these counties, with Hancock added, is 72.941—whole number of deaths, 1.107; per cent. of deaths, 1.51, which is doubtless a fair indication for the whole of Middle Georgia, and which will compare favorably with any other portion of the civilized world. The following Table, taken from Dr. Simonds' 'Vital Statistics of New Orleans,' with the exception of the two last items, will serve to show the contrast between various cities and country places.

Massachusetts	1847-'48	1.50
Boston	1830-'45	2.22
Charleston	1842-'48	2.49
New York	1841-'48	2.87
Twelve counties of England	4 years	1.93
Twenty-six cities of England	4 years	2.70
London (males)		2.74
" (females)		2.31
Liverpool (males)		3.53
" (females)		3.15
Manchester (males)		3.65
" (females)		3.31
New Orleans		6.66*
Six counties of Middle Georgia	1849-'50	1.51
Baltimore	1849-'50	2.15

It would seem, from this table, that Middle Georgia excels all the other places specified as to health and longevity; and when it is remembered that a large portion of the population belong to the African race, which is much shorter lived than the Caucasian, the difference will appear much more marked in favor of this region. In taking the races separate for Hancock county,

* This calculation is based on an estimate of 100,000 inhabitants; at 125,000, it would be 5.32.

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the only place where we have returns of both as to deaths, we find the whites are only 0.76 per cent. against 1.36 for the blacks. This establishes beyond doubt that the white inhabitants of this section of the South, at least, are as healthy and long lived as any portion of Europe or America.

Of the 129 deaths for the county, 32 were whites, 93 blacks and 4 mulattoes; the average of life for each class being, for whites, 26.65; blacks, 17.52; mulatto, 5.99. There were not a sufficient number of the last class, however, to form any thing like a just ratio. By taking the average of the ages of all the living on the first of June, as near as we could arrive at the truth, the white stands at about 23 years, the black at 18, and mulatto at 15. Let the subject be presented in every possible phase, and it will be found that the two pure races exceed the mongrel by a considerable per cent. in the length of life.

The deaths occurred in the following order, as to months:—January, 5; February, 19; March, 7; April, 11; May, 15; June, 7; July, 17; August, 6; September, 11; October, 9; November, 13; December, 9—being 33 for winter, 33 for spring, 30 for summer, and 33 for autumn, showing no perceptible difference as to season.

The diseases were classed as follows:—

Injuries	16	Measles	2	Scrofula	1
Typhoid fever	10	Ovarian Tumor	1	Colic	2
Diarrhea	9	Gastro-enteritis	1	Cholera morbus	1
Croup	9	Paralysis	2	Asthma	1
Pneumonia	8	Hepatitis	1	Calculus	1
Dropsy	6	Wen	1	Hemorrhage	1
Catarrh	5	Congestion	1	Conjestive fever	1
Fever	4	Cancer	1	Inflammation of the Brain	1
Consumption	5	Hypertrophy	1	Bronchitis	1
Worms	4	Whooping cough	1	Old age	1
Putrid sore throat	3	Psoas abscess	1	Unknown	20
Pleurisy	2	Metritis	1		

From this report we find 35 died of diseases affecting the organs of respiration; 21, the digestive; 17 from idiopathic fevers; 16 from injuries; 6, dropsies; 3, brain and nervous system; 2 from diseases peculiar to women; 2 from eruptive fevers; 3 from tumors, abscess, etc., and 1 from the heart. We noticed among the injuries quite a number of negro children who were overlaid by their mothers, and a number more burned to death; in fact,

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the great mortality among them is with infants, much more than among the whites, especially on the larger plantations. Doubtless, well-collated statistical reports might lead to such sanitory regulations as would be productive of great benefit both to masters and slaves.

In connection with this fact, it is proper to note the difference in the longevity and number of deaths between the northern and southern portions of the county. In the former, (owing to the rich soil, doubtless,) there are about three blacks to one white; in the latter, the population stands about one to one. It is remarkable that there were more cases of extreme longevity in the southern than in the northern portion, both among whites and blacks, and nearly all the deaths for the year occurred in the latter. This is, no doubt, owing to the greater abstraction of luxuries from the poorer class of whites, as well as their more industrious habits; while among the blacks there is a better system of food, clothing, ventilation, etc., on small plantations than on the larger ones. A poor soil is also more conducive to health and longevity, than a rich one.

The last table we offer relates to the blind, deaf and dumb, lunatics, etc., which, though the number be comparatively small, will serve to throw some light on the mental and physical well-being of the two races. We hope ere long much larger tables will be produced from the census of 1850, upon these and kindred subjects.

CLASS.	WHITE.	PER CENT.	BLACK.	PER CENT.	TOTAL.	PER CENT.
Blind - - -	2	.004	5	.006	7	.006
Deaf and Dumb	5	.011	2	.002	7	.006
Lunatics - -	7	.016	6	.008	13	.011
Idiots - - -	4	.009	1	.001	5	.004

By this table we learn, that the negroes are more liable to blindness by a small per cent., owing, doubtless, to their constant exposure to the intense light of our southern sun. To the other physical and mental defects the whites are much more liable, especially lunacy and idiocy, which no doubt originate partly in the great mental anxiety connected with many of the professions, care, solicitude of families, loss of fortunes, etc., from which the

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blacks are almost entirely exempt. There are physical causes, as epilepsy, to which both races are, perhaps, equally liable. Idiocy, I doubt not, originates, in many instances, in drunkenness, and in some the intermarriage of those who are near of kin. The exemption of the slave population of the South from these physical evils to so considerable an extent, has doubtless connected with it some very interesting political as well as physiological truths, which we hope will ere long be brought to light. It must convince the genuine philanthropist everywhere, that while there are some unavoidable evils connected with the institution of slavery, as with every condition of human life, there are other evils of great magnitude, from which this very condition has the greatest possible tendency to exempt its subjects. In connection, also, with these facts, it is gratifying to know that there are only twenty-five paupers in the county, or a little more than two to every thousand of the inhabitants. We doubt not that a full investigation of all the truths elicited by the census will prove honorable to the South, and we trust aid in calming the turbulent waters of political agitation, which have threatened to wash away the very foundations of our government.

Sparta, Ga., Jan. 1st, 1851.

ARTICLE II.

ON THE DENGUE IN THE CITIES OF SAVANNAH AND AUGUSTA.

[We find two interesting reports on this subject in the Medical Journals of Charleston and Augusta, —one by Dr. R. D. Arnold, of Savannah, and the other by H. F. Campbell, of Augusta. As we cannot make room for the entire papers, we will endeavor to give a full and correct *synopsis*.—Ed.]

I.—*The Dengue, or Break-bone Fever, as it prevailed in Savannah, in the Summer and Fall of* 1850.

BY RICHARD D. ARNOLD, M. D.*

Dr. Arnold commences his paper by expressing the belief that 'there has been for the last few years what may be termed a decidedly epidemic exanthematous constitution of the atmos-

* From the Charleston Medical Journal and Review, May, 1851

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phere,' as shown by the extraordinary prevalence of measles, scarlet fever and erysipelas, about Savannah.

The weather continued cool and pleasant up to the last of June, but became excessively hot in July, and continued so throughout the summer. About the first of August the customary 'climate fever' began to appear, which, he says, is always periodic. Dr. A. here enters into a brief historical sketch of the *dengue*, as described by Professor Dickson, of Charleston, and Dr. Waring, of Savannah, when it prevailed in these cities in 1828. He thinks Dr. Dickson misapprehends Dr. Waring when he says that the latter considered dengue, break-bone fever, bilious and yellow fever, as mere varieties of the same disease; but in this we cannot agree with Dr. Arnold. But the synopsis of Dr. Waring's views which we give in this volume, will enable the reader to form his own opinion. We think Dr. W. certainly contends for the close relationship, if not identity, of these various types of fever, and we concur with him.

The first two cases of dengue that fell under Dr. Arnold's observation this season, occurred on the 29th of August; and he confesses he did not recognise their true character until the eruption made its appearance. And this, too, notwithstanding his being aware that dengue was then prevailing at Charleston, and his expectation that it would soon break out in Savannah. No new case occurred to him till the 4th of September, after which the disease assumed an epidemic character, and spread in various parts of the city.

Dr. Arnold gives a summary of the prominent symptoms of the disease, with a view to settle its precise nosological character; but in his account we discover but very little that does not belong to the bilious remittent and yellow fevers, excepting the *eruption*, which he considers as 'distinctive of the disease.' He says, he began to keep notes of the time at which the eruption appeared, after the first febrile symptoms, but the cases differed so materially in this particular, that he found it impossible to ascertain any definite rule. He says: 'Sometimes on my first visit, I found an eruption developed. Then, again, it would become apparent on the second or third day. When the eruption was tardy, it was very puzzling to know whether you were

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about to have a climate fever, or the dengue. * * * * The skin was certainly the outlet of the system, by which the morbific matter of this disease was to escape, and hence, when any obstacle occurred to this, the internal organs were more disposed to suffer. The quicker the eruption made its appearance, the shorter was the sickness. The pains subsided very shortly after the appearance of the eruption, but the sense of debility left behind was really astonishing. Prior to the eruption, the fever was always continuous, never mind what time elapsed between it and the first seizing of the disease. In most cases, there was no return of the disease.'

From the last remark, we are led to infer that in some cases the disease did recur. Dr. Campbell, of Augusta, and some others, speak of relapses as being very common.

Dr. Arnold never considered a case '*one of the true dengue unless the eruption appeared.*' If all writers would agree upon this point, we would have something definite to guide us; but different degrees of importance are attached to this symptom in different places.

Among other distinctive features of this disease, Dr. Arnold mentions the *neuralgic* character of the pains, and the *continued* type of the fever. For our part, we think the pains attending summer and autumnal fevers are nearly altogether *neuralgic;* and as to the remissions and intermissions, if they do not belong to dengue, they are certainly very common at the same time and places where it prevails. Dr. Arnold himself says: 'During the whole existence of this epidemic amongst us, we had our usual endemic fall fever, assuming as common either an intermittent or remittent type. I have attended cases of each, lying alongside of each other, among children of one family, and also among the poorer classes of whites (foreigners), who huddle together in an extraordinary manner, and yet each has run its course unmodified by the presence of the contiguous disease.'

Dr. Dickson 'saw no remission or intermissions, but heard of many cases, both intermittent and remittent.' He says further: 'I will not deny the occasional superposition, or intermingling, of our epidemic with the ordinary endemic remittent, nor the protraction of certain examples into a continued typhoid state.'

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Dr. Arnold says, the eruption, as far as he saw it, was only of *two kinds*, one in patches, the other diffused, whereas Dr. Dickson points out *nine or ten distinct varieties*.

Dr. A. points out the diagnostic differences between the eruptions of dengue, scarlatina, measles and prickly heat. He admits that prickly heat and boils prevailed to a great extent this summer. The following extract, being the closing part of Dr. Arnold's interesting paper, will present pretty fairly his views respecting the treatment and nature of this disease:—

'My treatment of this disease was very simple. I purged with epsom salts, either plain or in infusion of serpentaria; directed sinapisms when the pains were very intense, and hot foot-baths; sometimes I gave antimonials as sudorifics, never as emetics; to allay thirst and produce perspiration, I ordered hot lemonade; after the bowels had been moved, I used opiates very freely, and with most decided alleviation of the painful symptoms; where there was no irritability of the stomach, I preferred Dover's powder to any other. I am satisfied that not one quarter of the cases that occurred were treated by physicians. The disease was very general, and I believe that very few in the whole city escaped it. This is satisfactory proof that this epidemic was as harmless in its results upon life as its predecessors have been. I know of no instance of a death having occurred from simple uncomplicated dengue. But the suffering, in many cases, was very great, and I am satisfied that it was very greatly alleviated by remedies. Moreover, it was much to be aware that the violence of the symptoms was no evidence of the danger of the disease, and hence we were enabled to avoid heroic depleting remedies, and to preserve for the patient as much strength as possible, for what always proved a tedious convalescence. Indeed, I must consider the extraordinary debility left after an attack of this disease (it being so comparatively short in its duration), and the slow and tedious convalescence, as peculiarly characteristic of it.

'And now the question occurs, What is dengue? I have no doubt that it ought to be classed as a specific exanthematous fever. The variations observed in it, in its epidemic existence at different times, are no greater than those which occur in scarlatina or rubeola, at various times of their prevailing. Its variation, as it occurred here in 1828 and in 1850, consisted in the fact, that in the former year it was more arthritic. Dr. Waring, in the article cited above, speaks of the alleviation of the pain "after the bright red eruption had made its appearance." He also asserts that "the eruption was developed in most cases," and that in "in some cases it spread in patches; in others, in an unbroken flush, over a greater or less extent."

'Here, then, is a disease presenting peculiar symptoms, viz., a febrile disturbance, and violent pains in the limbs or joints, or both, preceding an eruption of a bright red color, at intervals of time somewhat varying, but seldom exceeding forty-eight hours; this eruption of a determinate duration in the majority of cases.

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'At the same time that this disease prevails, there prevails also another disease endemic to this city in the summer and fall; cases of each are seen in juxta-position, and each presents its distinctive peculiarities. Whatever points of assimilation there may be between them, however the digestive functions may be disturbed in each, there is no identity.

'I know that some physicians, when an epidemic prevails, consider that all diseases then occurring are modified by its influence. This is true to a partial extent. But the effect is the development of the disease itself on the least-exciting cause, and not the development of a hybrid compound. Now, during the last season, I treated a great number of climate fever, intermittent and remittent. There was not the slightest difficulty in deciding upon their character and treatment, after sufficient time had elapsed to show their periodicity. But when I was first called to a patient, and was asked "Have I got the dengue?" my answer invariably was, "I will tell you in a day or two." If the eruption did not appear, I did not consider it a case of dengue. On this point the epidemic showed some variation of symptoms from what it did in Charleston, for I infer from Dr. Dickson's recent article on dengue, that the eruption was deficient in a great number of cases there. I say, positively, that I met with no case which I thought entitled to be considered dengue, in which the eruption did not appear at some period. I am also inclined to think that this disease appeared in a more simple form here than elsewhere, from the fact that Dr. Campbell, of Augusta, styles it a "truly Protean epidemic," as seen in that city. Beyond that variety of symptoms which any disease shows in different individuals, I could not apply this term to the epidemic here; on the contrary, it was marked and distinct. Of course some were affected more violently than others, presenting variety as to the intensity of pain, and as to the affection of the digestive functions. Many persons who had the disease here, did not go to bed. There are two circumstances about this disease, as it has shown itself in our city, which merit consideration.

'*First.*—It has shown itself here to be a city disease, as yellow fever is. It was extensively epidemic here in 1826, and 1828, and 1850. Almost every body in the city had it. Speaking of the epidemic of 1828, Dr. Waring gives us the following distinct testimony:—

'"I have said that the dengue was essentially the break-bone which we had experienced in 1826, and also in 1827. The analogy was so striking, that I do not believe we should have called it by another name, if it had not appeared in some other southern cities at the same time. The points of resemblance were, the universality of both diseases; the same gradual progress, by which the entire population became involved; excruciating pain of the limbs and loins; the same species of cutaneous inflammation; singular violence and short duration both; their common characteristic of forming but one paroxysm; red injection of the vessels of the conjunctiva, and uniform recovery."

'In 1827, our city was visited epidemically by yellow fever, its last epidemic visitation. Further on, he says, referring to the years 1826, 1827 and 1828, "As regards yellow fever, break-bone and dengue, the remote cause confined itself to the boundaries of the city proper."

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'This has not been the case with scarlet fever and measles. They have prevailed extensively on plantations. Now, although dengue prevailed for a series of three years, viz., 1826, '27 and '28, in the city proper, and, during two of those years, was very general, we here have distinct testimony as to its being confined to those limits. The same occurred in 1850. For aught I know, a few isolated cases may have got into the country surrounding us, but the disease certainly never became epidemic here.

'Dr. James P. Screven, of this city, who was a practitioner in 1826 and 1828, in a conversation with me, mentioned the fact of the confinement of this disease, at that time, to the limits of the city, as a peculiarity in it. He thus corroborated the observation of Dr. Waring. Dr. S. is one of the most extensive planters on the Savannah river, and he stated that he was not aware of the occurrence of a single case on any of his plantations, during the past year.

'*Second.*—This disease is undoubtedly affected by frost. The diminution of cases after a frost last fall was as marked as the diminution of cases in our endemic climate fever usually is. Persons who had the seeds of disease latent at the time, became affected afterwards. About the beginning of November cases became quite rare, but a case was occasionally met with. On the 18th November I saw the last case of the season, as far as regards my experience. It occurred in an infant eight months old, who had been absent during the summer, but had returned about the end of October.

'How did this disease originate? When a definite answer is returned, as to the origin of small-pox, scarlet fever, measles, or whooping-cough, I shall expect one to this question.

'I have not aimed at giving any particularly graphic description of this disease, as it appeared here last summer. I have been struck, however, with the fact of its former epidemic prevalence here, in 1826 and 1828. A careful perusal of Dr. Waring's admirable article has convinced me of the identity of these former epidemics with the one of 1850. Both Dr. Waring and Dr. Daniell, of this city, as quoted by Dr. Dickson, contended for the identity of the break-bone of 1826 and the dengue of 1828. As eyewitnesses, and as having given their testimony many years ago, their evidence cannot be set aside to suit any theory. Dr. Dickson, in his first article on dengue, dwells with emphasis on the testimony of Dr. Stedman, as to its starting point, in this hemisphere, being at St. Thomas's, in 1827. How it happened to come to Savannah, in 1826, will, I suppose, be solved at the Greek calends. Dr. Dickson acknowledges the identity of the epidemic of 1850 with that of 1828; and Dr. Waring and Dr. Daniell, the identity of that of 1828 with that of 1826. Here is the chain of evidence complete. It certainly did *not* come to Savannah from St. Thomas's in 1826. The truth is, that there is a singular propensity in communities to blame other communities for the origin of epidemic diseases. If I mistake not, in Charleston the scape-goat for yellow fever is Havana. Now, on the 1st day of December, 1849, I treated a decided case of yellow fever, terminating in black vomit and death, which had been contracted in Charleston by a foreigner, who had stopped there two

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weeks on his way hither. I was called in on a Saturday. The man had arrived the previous night, on one of the Charleston boats. On Sunday he threw up black vomit, and on Monday he died — and there was the end of it and him. Now, had this case occurred early in the season, and had others occurred after it. the contagionists would have blamed Charleston for all such cases. I should not; because in 1839 I saw two cases of yellow fever, ending in black vomit, occurring under circumstances which ought to have favored its spreading. Yellow fever prevailed epidemically in that year, in Charleston and in Augusta. At the latter end of August, of that year, a man who had just left Charleston, entered the hospital, the wards of which were then filled with cases of bilious remittent fever. He died with black vomit. About ten days afterwards another man entered, who had just left Augusta. He died with black vomit.

'If the patients did not bring the disease hither with them it was sporadic here; if they did, it certainly failed to propagate itself, under circumstances highly favorable to such propagation — but not a single patient contracted the disease. Now, had there existed an epidemic tendency to this disease, and had it broken out shortly after the occurrence of these two cases, they would have been considered irrefragable evidence of its contagiousness. That a peculiar disease, like yellow fever, failed to propagate itself, when introduced into the wards of a fever hospital, in the very season of the year when climate fevers are endemic, is surely entitled to be considered more than negative evidence on the subject of its contagiousness.

'My first case of dengue, or break-bone, occurred on the 29th of August. This disease had been prevailing epidemically in Charleston, for more than a month. There is a daily communication between this city and Charleston by steamboats, going from wharf to wharf. Here certainly was a means of communicating contagious matter. But no one in our city made any movement towards quarantining Charleston.

'Neither of those cases had any communication, direct or indirect, with Charleston. The disease was not then known to exist here. There was no centre in our city from which to trace their radiation. They were owing, according to my belief, to an epidemic influence. Persons say that means nothing. I differ from them. These words express a fact, however unable we may be to solve the ultimate cause of that fact.

'The dengue last year was really epidemic. Persons from abroad, who came within our limits, were seized with it, without ever having been near any body sick with it. I detailed, in my article alluded to before, the case of W. D., Esq. and my own, which occurred in the fall of 1848. Each was the only case in our respective families. No precaution was taken by isolation, in either case; yet no other individual of our families contracted the disease. Is such a fact of no importance, in deciding upon the contagiousness or non-contagiousness of this disease? I confess that I cannot account for the origin of the first cases, on the theory of contagion; nor did the disease spread in a manner to induce such a belief. It did not, to be sure, burst out at once, in every part of the city; but it did break out at various points,

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within a very few days of the first cases, and, by the middle of September, it had visited every portion of it.

'Fortunately, this disease, which seems to prevail so generally when it does appear among us, is one of no fatality. Tedious convalescence, and, in some few instances, one of which is now under my care, chronic arthritic rheumatism, are its only effects.'

It thus appears that Dr. Arnold considers dengue to be a *specific exanthematous fever, not contagious, and confined chiefly to cities.* On reviewing what we have read from others, and what we have seen of the disease called dengue in this city, we cannot concur with the worthy author on this subject.

II.—*History and Treatment of the Dengue Fever that prevailed in Augusta in the year* 1850.

BY HENRY F. CAMPBELL, M. D., Demonstrator of Anatomy in the Medical College of Georgia.

Dr. Campbell gives an account of the epidemic fever that prevailed in Augusta, under the various names of 'Dengue,' 'Break-bone,' and 'Neuralgic fever.' The attendant circumstances were much the same as in Savannah and Charleston. There had been a protracted period of unusual heat and drought. The first case he mentions as belonging properly to the epidemic, occurred on the 22d of August, but, at the time, he considered it as an unusual case of remittent bilious fever. Nothing is said of *eruption* in this case, though he has since recognised in it most of the characters of the epidemic. Shortly after, other cases appeared, in a part of the city quite distant from the above, somewhat better marked than this; but even these did not pass with us as confessedly cases of dengue. 'About the 10th of September the disease became fully manifest in all its unique and indubitable individuality.'

Dr. Campbell's description of the premonitory and subsequent symptoms of the disease, corresponds pretty well with that of Drs. Dickson, Arnold and others; but he mentions some particular facts that are worthy of special notice. Of the *eruption*, he says:—

'In the vast majority of cases, though not invariably, during some period of the attack, there appeared on the surface an eruption, which,

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in adults most frequently, according to our experience, would assume the forms of urticaria or erysipelas, while in children, scarlatina and rubeola were the diseases simulated. This eruption, of whatever form, was usually attended with much itching and burning over the surface, followed often by partial or general desquamation. We have found it most frequently in those cases that have suffered from gastric and intestinal derangement; and on the appearance of the eruption there was much abatement in the violence of the symptoms.'

Of *head symptoms*, he remarks:—'In many cases, the brain gave evidence of being much affected throughout the whole course of the disease. Somtimes there was stupor so profound, that it was difficult to arouse the patient even for a moment; while in others the most obstinate watchfulness obtained, amounting even to delirium.' He speaks of some attacks being attended with nausea and vomiting, but we should not think, from what he says, that this was near so common as it was in New Orleans; indeed, he says, 'the condition of the liver varied; though, from the color of the stools, and the *absence of bile* in the matter vomitted, it is probable that it was most frequently torpid, or at least, not in the excited condition observable during many of the paroxysms of an autumnal fever.'

In respect to the hemorrhagic tendency, the fever of Augusta seems to have resembled that of New Orleans in a more striking manner. Dr. Campbell says:—

'Of the hemorrhagic tendency of this epidemic our observations were numerous. In a few cases the nose was the seat of hemorrhage; in two, the gums; in one, the mucous membrane of the lungs, and also the gums; in many, the bowels; and the cases of vaginal and uterine hemorrhage were perhaps the most frequent of all. The blood discharged from the gums was of a dirty, venous color; it presented the appearance of blood undergoing incipient putrefaction. In the case where the blood was discharged from both the gums and lungs the difference between the two fluids was remarkable,—that from the gums being of the character above described, while the expectorated blood was of a bright red color, and in parts resembled very nearly the lateritious sputa of pneumonia. When the hemorrhage came from the bowels, the passages were dysenteric, and more or less mucus was mixed with blood, the proportion varying according to the predominance of the hemorrhagic tendency. Frequently the dysentery would be of the most obstinate character.'

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He mentions cases of *purpura* reported by Professors Garvin, J. A. Eve, and Dugas, in some of which 'the patient vomited matter analogous to black vomit, closely resembling coffee grounds.' This is verging very closely on *yellow fever*.

Dr. Campbell mentions the *frequency of relapses* as 'a marked feature, and one of the most prominent characteristics of the epidemic.' Relapse was apt to occur about the fourth or fifth day, and the secondary fever would last from two to four days. It was during this relapse that the eruption was sometimes first observed, and at others even to *reappear*.

In regard to the number of cases in Augusta, Dr. Campbell says:—

'From various calculations we have seen, we think the number of cases in Augusta during the past season may be estimated at between eight and nine thousand — the majority of which did not receive the attentions of a physician, being subjected to domestic treatment. Out of this vast number we have not heard of a single death from the epidemic, uncomplicated. Indeed, the prognosis of the disease, under ordinary circumstances, was invariably favorable.'

Dr. Campbell thinks that the *sequelæ* of this disease partook more of the nature of *neuralgic* rheumatism than of the *articular*.

The epidemic was followed, as well as preceded by *scarlet fever*, which last was accompanied by *convulsions* in many children.

In regard to the *treatment*, Dr. Campbell looks upon dengue as a '*self-limited disease*,' and therefore requiring nothing but '*palliative treatment*.' In what he calls the 'uncomplicated forms of the disease,' he commenced the treatment with a mild cathartic, as castor oil, or the sulphate of magnesia. After the bowels were fairly opened, he relied chiefly on anodynes and rubefacients to relieve the severe pain with which the patient was tortured. He gave opium freely, and if the stomach was irritable, he preferred the *laudanum enema*. In the severer cases, where the intensity of the frontal and temporal neuralgia was too urgent to wait the effect of the opiate treatment, he found the inhalation of *chloroform*, as well as its local application, to afford immediate and entire relief. He speaks in the highest terms of *diaphoretics*, nitre, the general bath, etc., and

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thinks this disease would be peculiarly adapted to the *hydropathic regime*, though he never tried it.

Of *quinine*, he says —'As a general remedy, we cannot speak with any great confidence. In a few cases, where the disease appeared to assume the remittent type, we have seen marked benefit accruing from quinine and laudanum enemata, applied during the remissions, and in the latter stages of the disease, where the convalescence was unusually protracted, this proved a valuable remedy.' For the nausea and prostration of the stomach, he found nothing better than *brandy*. Of ale and porter he does not speak so highly, having seen obstinate diarrhœa and gastric distress arise from the use of them. He forbears to speculate upon the nature of the *cause* of this disease — thinks we know about as much concerning it as we do of other epidemics.

He says nothing about the *contagion* of the disease; from which we infer he does not entertain the idea at all.

So much for the views of these Georgia gentleman respecting *dengue*. When taken in connection with various others which we shall present in this volume, we trust the reader will be able to determine in his own mind whether dengue is a disease *sui generis*, or only *a variety of endemic malarious fever*.

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REPORTS FROM SOUTH CAROLINA.

ARTICLE I.

AN ACCOUNT OF THE EPIDEMIC FEVER ON SULLIVAN'S ISLAND IN THE SUMMER OF 1850.

By JOHN B. PORTER, M.D., Surgeon U.S.A.

Sullivan's Island is so well known, that but a brief description is required. It is a sand island at the mouth of Charleston Harbor, elevated only a few feet above the level of the sea. The drainage is bad; percolation rapid, excepting after frequent and heavy rains. In all seasons, and on almost every part of the island, water is found three or four feet beneath the surface. On the rear, or northernmost part, on the main land, are large marshes, from which, as some say, no deleterious effects arise; but others, including intelligent physicians, assert that, in years past, when northerly winds prevailed, (sweeping over the marshes to the island,) severe fever was known to occur in the street most exposed — the one in rear, or on the back beach, in the town of Moultrieville. By many, including physicians, Sullivan's Island is considered one of the most salubrious spots on the face of the earth for summer residence, for all sorts of persons, in all diseases, and in all stages of disease; others, including intelligent medical gentlemen, are of opinion that, for some persons, and in some complaints, the damp and chilling atmosphere is positively insalubrious and injurious.

Fort Moultrie is on the south side of the island, on the main channel or entrance into Charleston Harbor, about four miles from the city. Charleston (St. Michael's Church) is in latitude 32° 46′ 33″ north; longitude 79° 57′ 27″ west. The fort is in latitude 32° 42′ north; longitude 79° 56′ west. (*Vide* Army Statistical Report, 1840.) By the observations of the Coast Survey, if I am not mistaken, Fort Moultrie is situated in latitude 32° 46′ north; longitude 79° 46′ west. It is surrounded on three sides by the village of Moultrieville — a resort in the summer season.

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METEOROLOGICAL REGISTER OF FORT MOULTRIE, for the Summers of 1849 and 1850.

Thermometer detached from Barometer, and Quantity of Rain.

1849.	Sunrise.	9 A.M.	3 P.M.	9 P.M.	Daily Mean.	Hottest Degree.	Coldest.	Range.	Hottest DAILY Mean.	Coldest.	RAIN.
May - - - -	69.48	74.19	81.77	71.74	72.37	84	54	30°	79°	61°	4.60
June - - - -	73.36	80.40	83.16	79.33	79.13	88	72	16	86	74	2.60
July - - - -	75.89	79.80	81.99	78.58	78.87	88	66	22	85	71	7.50
August - - - -	78.35	82.80	83.58	80.58	80.80	88	73	15	85	75	10.80
September - -	72.16	75.83	78.16	75.03	75.16	86	64	22	81	69	4.70
								Total number of inches of Summer Rain - -			25.60
1850.											
May - - - -	66.38	73.61	76.83	70.22	71.61	84	56	28°	78.0	61.5	4.10
June - - - -	71.	79.66	81.46	75.23	76.23	93	55	38	83.0	63.0	0.78
July - - - -	79.3	85.70	88.19	81.12	83.61	95	74	21	90,0	78.5	2.32
August - - - -	79.	85.	87.29	81.93	83.14	94	73	21	87.5	77.5	4.03
September - -	73.1	78.9	82.76	77.5	77.93	91	60	31	84.0	68.0	2.68
								Total quantity of inches of Summer Rain - -			13.91

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From the foregoing tables, it will be perceived that the summer of 1849 was comparatively cool and wet; and that the summer of 1850 was hot and dry; but no one can form an idea of the continued and intense heat in the months of July, August, and part of September, 1850, unless he had been a resident, or has an opportunity to study the daily meteorological observations of that period. There was only one day in July when the daily mean of the thermometer was not 80°, and above; there were only five days in August in which the daily mean was not 80°, and above; and there were twelve days in September in which the daily mean was 80°, and above. In July, the thermometer ranged as follows:—S.R., from 74° to 86°; 9 A.M., from 80° to 89°; 3 P.M., from 81° to 95°; 9 P.M., from 77° to 86°. In August—S.R., from 73° to 84°; 9 A.M., 79° to 90°; 3 P.M., 78° to 94°; 9 P.M., 77° to 86°. September—S.R., from 60° to 80°; 9 A.M., 65° to 88°; 3 P.M., 76° to 91°; 9 P.M., 67° to 85°.

Health of Charleston previous to the Epidemic.—Yellow fever in the autumn of 1849; scarlatina, more or less, during the winter following, and in the spring of 1850.

Health of Sullivan's Island.—In the summer of 1849, bowel affections, especially among children. No yellow fever in the fall of 1849, and but few cases of fever of any kind. In the winter following, catarrhal affections, and diarrhœa among children. Pertussis common. In April, 1850, scarlatina was introduced from Charleston, and several severe cases, of the anginose and malignant varieties, occurred in the months of April and May, many of them proving fatal. Very few of these cases were *S. simplex*, and there was dropsical effusion in every case, mild or severe. In June and July, bowel affections, including cholera infantum, were common among children. Prickly heat [*lichen tropicus*] was universal,—from infants, to three score and ten; *lichen urticatus* common; *herpes* frequent; boils were almost universal, and carbuncles were common.

We now come to the epidemic in question. It commenced in the city of Charleston in July, but was later in its appearance on Sullivan's Island; and it spread rapidly and universally, scarcely a single person in a family escaping.

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What was this disease? In Charleston, S. C., Dr. Dickson and others say that it was 'Dengue;' others termed it 'Break-bone fever,' meaning the same thing. On the other hand, several physicians of Charleston believe it to be a simple Bilious remittent fever. On Sullivan's Island, some physicians believed it to be '*dengue*,' others thought differently. My own opinion will be stated hereafter.

What is dengue? Dr. Thomas Lawson, now Surgeon-General of the U. S. Army, was the surgeon at Canton Clinch, near Pensacola, in 1828; he says:—'Dengue has prevailed to a great extent in this section of our country. In Pensacola, scarcely a person of any age, sex or condition has escaped an attack. With us in the cantonment, however, its influence has been less generally felt. The disease was modified somewhat in its character and the intensity of its symptoms, by the peculiar constitution of the subjects attacked. Among the Americans, and other persons of vigorous health, the fever usually ran very high, and continued, without a remission, from twenty to thirty-six hours; after which it subsided, leaving the patient in a state of extreme debility, and laboring under an acute rheumatic affection of the muscular system generally. Among the Spaniards, who are generally less plethoric, the febrile manifestations were, on the contrary, much less intense; but the disease was of longer duration, and the pains throughout the fibrous tissues were infinitely more severe.

'As a general rule among the Americans, one or two efficient cathartics were administered in the early stage of the disease; after which the repeated use of the warm bath, and frequent draughts of lemonade, were sufficient to complete the cure. Among the Spaniards, no active medicines at all were taken; ptisons and the warm bath were the only remedies employed. A recurrence of the disease, particularly of the rheumatic affection, was very common among all classes, but the relapses, I believe, were much more frequent among those who resorted to no active remedial means. It was always most safe to administer an efficient dose of medicine immediately on the attack; the disease was rendered more manageable, and its duration shortened. The period of its course varied from forty-eight hours to several weeks.' (Army Statistical Report, p. 61).

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Dr. Forry (Am. Jour. Med. Sciences, April, 1842) says:—'From the various descriptions of this disease, it appears that it was generally ushered in by the usual manifestations of febrile diseases. Its accession was marked by a painful affection of the joints and muscles, attended by fever of the ordinary inflammatory type. The fever generally declined and disappeared on the second or third day, and the arthritic pains diminished in severity with the subsidence of the febrile exacerbation. The paroxysm terminated in an abundant perspiration, attended occasionally with a rash, or miliary eruption, which, however, was regarded as an incidental symptom. The local pains abated so considerably that the inexperienced were often induced to resume their occupations. This deceptive interval, however, was but the prelude to the second stage. On the third or fourth day—the fever having generally intermitted—the tongue began to show a yellowish fur, and the stomach manifested considerable oppression, with nausea, and sometimes vomiting. These annoying symptoms, on the fifth or sixth day, were relieved by a cutaneous eruption. It resembled scarlatina more than measles, but was less confluent than either. The eruption consisted of minute papulæ, of a florid red, slightly elevated, and distributed in irregularly-shaped patches. A second febrile exacerbation supervened, attended with severe arthritic and muscular pains, on the full development of this exanthem. After two or three days, the eruption gradually disappeared, with some desquamation of the cuticle. In the neck, groin and axilla, the lymphatic glands, in a good many cases, suffered inflammation and enlargement; and this condition of the glands, as well as the painful affection of the joints, often continued weeks after convalescence. Dr. Dumaresq, of New Orleans, observes—"This was a singular termination of the disease, leaving sufferers from the fever hardly able to move about; and, indeed, the appearance of persons in the street must have been truly pitiable to a healthy stranger—here, one seen dragging his legs after him, supported on crutches; and there, another, with limping gait and various contortions of countenance, bespeaking that his tardy progress was made at the expense of his bodily feelings."

As regards the pathology of dengue, it may be fairly classed

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among the exanthemata. It is an eruptive fever of a distinct and specific character, united with an inflammatory affection of the joints. Hence, one writer styles it *scarlatina rheumatica;* another, *exanthesis arthrosia;* and a third designates it an *eruptive articular*, or rheumatic fever.

One class of writers refers it to an epidemic constitution of the atmosphere; another maintains it to be a malady of a specific and contagious nature. In support of the latter position, it is stated that its career was uninfluenced by season, locality, or atmospheric change, and that its progression was gradual from place to place, following 'the great routes of commercial intercourse.' Professor Dickson is an advocate for its contagiousness; but all the evidence adduced is far from conclusive. Dr. Osgood, who saw the disease in Cuba, is strangely led to consider the specific cause of dengue and yellow fever the same;* and Dr. Waring, of Savannah, maintains its close analogy with the 'break-bone fever of 1826, and the epidemic fever of 1827,' which last, like the *break-bone* fever of 1780, described by Rush, is a plain bilious remittent fever. That this '*nova pestis*' did, however, in the West Indies, and along our southern coast, bear a strong resemblance to remittent or to yellow fever, is very probable, for it is a fact which did not escape the notice of that sage observer, Hippocrates, that diseases dependant on the nature of the soil will always impress their peculiar character upon epidemics.

Dr. Dickson, of Charleston, in a paper written several years since, makes dengue consist, mainly, as almost every writer does, in, first, an arthritic disease; second, the characteristic eruption. 'On the fifth or sixth day from the invasion,' says Dr. Dickson, 'the period varying somewhat in different individuals, the annoying symptoms first described were relieved by the coming out of an abundant eruption, met with so constantly, and in so great a proportion of the cases, that it clearly demands to be considered a characteristic and essential circumstance in the history of the disease. It consisted of minute papulæ, somewhat elevated, of a florid red, and distributed in irregularly-shaped patches; the feet and hands being somewhat swollen, with a sense of numbness and thickening. It appeared

* Nothing so very strange, after all.

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first on the face, then on the trunk and thighs, gradually spreading to the extremities. It resembled scarlatina more than measles in the hue and aspect of the skin, but was less diffused or confluent than either. When fully developed, it was attended with some itching and burning of the surface, and at this time a second febrile paroxysm came on, with return or aggravation of the muscular and arthritic pains. Inflammation and enlargement of the lymphatic glands of the neck, axilla and groin, attended in a good many instances -- these parts being apt to continue swollen and painful for some time after convalescence was fairly established. The eruption disappeared after two or three days' duration, becoming gradually paler, with some desquamation of the cuticle. Of all the symptoms of dengue, the affection of the joints was the most tenacious and troublesome, adhering for weeks to some patients, and constituting a sort of permanent lameness, or loss of mobility. Nay, even now (January, 1835) some of the population of cities visited by this plague persist in speaking of the rheumatic, or quasi-rheumatic decrepitude and pain under which they labor, as "effects of the dengue." All classes of persons were subject to this singular exanthem, and all equally and alike. The aged and the young, the infirm and the robust, the native and the stranger, the black and the white, all shared the same sufferings. Very young children were liable to the disease, even from a few days after birth — nay, some were supposed to be actually born with it.' Dr. Dickson says, that 'dengue made its attack with pain, stiffness, and swelling of some of the smaller joints, often of the muscles of a limb, rigidity of the neck, aching of the back and loins.'

Dengue, then, throwing adventitious symptoms aside, is, according to authorities, a febrile arthritic disease, combined with exanthema. Hence the varient nomenclature. Dr. Dunglison says, that it 'seems in all to have been a singular variety of rheumatic fever.' By this criterion — an arthritic and eruptive fever — the former much the most important of the two, must be determined the fact of the existence or non-existence of dengue on Sullivan's Island, and in the garrison of Fort Moultrie.

1. *In regard to the affections of the joints, and of the fibrous and muscular tissues.* This was so infrequent as to be scarcely

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worthy of notice. Not more than half a dozen cases in the whole summer (I speak of my own patients, as a matter of course) could, by stretch of imagination, be considered dengue.

2. *The eruption.* I am obliged to say, frankly and honestly, that I was not able to see the eruption as others saw it. A febrile eruptive disease is usually so well marked as to be noticed by both the medical attendant and the friends of the patient, as is the case in measles and scarlatina. This may not always be the case, however. But, 'forewarned, forearmed:' and so much had been said in Charleston, at the commencement of the fever, about 'grippe, dengue, and break-bone fever,' previous to the appearance of the epidemic on the island, that no one could be inattentive to the characteristics of the disease. It has been already mentioned that cutaneous complaints were universal so early as the months of June and July, particularly prickly heat and other varieties of lichen, carbuncular abscesses common, etc. On a person covered with prickly heat, more than twenty small boils from one elbow to the wrist were counted, answering the description of the phlegmonoid variety of the denguists, but the person in question did not have a single symptom of the epidemic fever. Cases occurred in children, long before the epidemic broke out, in whom boils were almost universal on the chest, neck and scalp, there being at the same time nearly a perfect sheet of prickly heat. They were common before the epidemic, and were regarded as estival.

In the language of Dr. Forry, ('the epidemic of 1827, which, like the *break-bone* fever of 1780, described by Rush, is a plain bilious remittent fever,') the fever of last summer is regarded as a plain, bilious remittent fever. The epithet, *bilious*, might perhaps be omitted, and the fever would be just what it was reported to the Surgeon-General — remittent fever — and no reason has yet been seen for changing the opinion. It is not pleasant to differ with professional brethren on any subject, but it is a consolation, nevertheless, to find others of the same mind, several esteemed medical friends in Charleston coinciding in the opinion.

Cause.—Extreme heat acting on animal and vegetable matter. (See meteorological tables.) 'We will scarcely find,' says Dr. James Johnson, 'a spot on this earth's surface, that is not

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covered or imbued with both vegetable and animal remains in a state of decomposition, and ready to afford pabulum for the sun's rays, with or without humidity to extricate the injurious principle in question." There are no police regulations on Sullivan's Island; every tenement is occupied in summer, by good, bad, or indifferent persons; every small house and yard has some kind of negro kitchen attached to it; water is scarce; and grog-shops are abundant. Every sensible person will see that this state of things must produce sufficient 'pabulum for the sun's rays.'

Symptoms.—Sometimes the fever was ushered in by a chill, but not generally. Cephalalgia was general in the early stage, often severe in the orbital and frontal regions,—occasionally the eyes were suffused and a little injected—all going off as the disease advanced, or under treatment; and pains in the back and limbs were universal. Sometimes there was great determination to the brain, but not often to an alarming extent. Sometimes there was laborious respiration, with frequent deep inspiration. Gastric irritability (sometimes vomiting) was frequent at the commencement; pain, or tenderness of the epigastrium, or both, was almost universal. The skin was sometimes hot and dry; oftener not much heat, with a tendency to clammy sweat; and in some cases there was cold and profuse perspiration. The patients with hot and dry skin were regarded in much the most favorable light, agreeably to experience in the Florida fevers of 1839, '40 and '41, as having much less of the congestive form. In the progress of the fever, the heat of skin sometimes became pungent to the touch.

Tongue, in the early stage often clean, or nearly so, and having about the same appearance to the last; at times, a thick white coat, occasionally becoming yellowish in the progress of the fever; sometimes, but not often, there was a yellow and bilious-looking tongue from the commencement, and it was almost always moist. In some of the most serious cases, however, the tongue had red edges, becoming dark brown and dry in the progress of the disease. In a few instances, the tongue was enlarged, seemingly by infiltration, constituting œdema. Thirst generally moderate, except during an exacerbation; mouth not often clammy. In a very few cases sordes about the teeth. Con-

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stipation in almost every case. Hemorrhage common; uterine in the female, often causing abortion in pregnancy; in the male, epistaxis. As the tendency of the epidemic was to recovery, both these varieties of hemorrhage were often critical, or the precursors of convalescence.

From the hospital register, the duration of the disease among officers and men can be ascertained in all cases. The shortest period, the very last case, was five days, but the patients were generally on the sick list ten, fifteen, twenty and twenty-five days, the last being in grave cases with brown tongue, etc. It is to be understood that, in all cases, the soldier performs a tour of guard duty the day after leaving the sick list, and is considered, subsequently, fit for all kinds of duty. As a general rule, the mildest cases occurred at the commencement of the epidemic. First case in garrison, August 23d; last case, October 14th.

Treatment.—This need not detain us long. Regarding the disease as a remittent fever, with tendency to congestion, as reported to the Surgeon-General, the method of treatment was similar to that adopted for the Florida fevers in 1839, '40 and '41. The following extract, from my report to the Surgeon-General, may not be out of place.

'The cases of fever which came under my own observation, both in garrison and beyond it, very much resembled those at Fort King, Florida, in 1841. This fever exhibited considerable tendency to congestion, like the Florida fevers. One of the worst cases of congestive fever I have ever seen originated on this island, in the person of a married female of good habits and character, who had not been from the island for more than six weeks previous to the attack.

'Sulphate of quinine was the main remedy. It was given, with calomel as a cathartic, early in the case, and was generally followed by ol. ricini. In a few cases, when there was vigor of the circulation without gastric irritation, quinine was given in combination with tart. antim. et potassæ, until the pulse was reduced. A combination of sulph. quin. and infus. capsicum was an invaluable remedy. These two articles were often given at the very commencement, and almost always in the progress of all cases. There was a tendency to congestion, often from the first, almost always in the progress; hence the value of this combination. In a case (a company laundress) of relapse, attended with rapid and feeble pulse, great thirst, pungent heat of the skin, etc., quinine and capsicum were used freely, and in the course of eighteen hours the patient was considered out of danger. Unfortunately, in about twenty-four hours from the second attack of fever, abortion of a three months' fœtus (with considerable hemorrhage) occurred, reducing the patient to an extreme condition. The combination of quinine and

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capsicum was steadily continued, in addition to æther-sulphuric, brandy, etc., until the urgent symptoms passed off; and the patient recovered.'

The case of congestive fever alluded to terminated fatally, with all the symptoms of apoplexy, stertorous respiration, etc. The case of relapse, with abortion, was convalescent in a surprisingly short time. The relapse was caused by the patient resuming her usual occupations altogether too soon. There was no sign of arthritic disease in this case, neither was there eruption; and in two or three weeks she was again engaged in her usual labors.

A few additional remarks, principally in relation to the severe cases, will close the treatment. Venesection was scarcely thought of. Free cupping, often dry, to the cervical spine, lumbar region, and epigastrium, was general. Sinapisms were in almost universal use. Blisters were often employed in the severe cases, oftenest to the epigastrium; frequently over the cervical spine also. In all cases, from the beginning, quinine was the sheet-anchor, nearly always combined with infusion of capsicum. In a few cases with grave symptoms, as brown and dry tongue, etc., calomel in broken doses was combined with the quinine, with excellent effect. Pytyalism was always avoided, and occurred only once, slightly, in a severe case with dry tongue, sordes, etc. So soon as slight tenderness of the teeth and gums came on, improvement was rapid. The various preparations of opium were in general use at night, morph. sulph. most frequently. Wine, brandy and malt liquors, according to the taste of the patient, were often freely used. Emetics were sometimes of benefit at the commencement; not often employed. Cathartics were always given at first, almost always calomel at the same time with quinine, followed in a couple of hours by ol. ricini; laxatives and enemata in the progress of the fever. The object to be accomplished by the combination of calomel, and quinine is evident.

In the early part of the season an infallible remedy, consisting of decoction of polygala senega, with sulphate of magnesia, was greatly puffed in the Charleston newspapers. This specific was extensively used, and in many cases did immense injury. One of the worst cases seen on the island was produced by this preparation.

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The patient (a female) was taken with the prevailing epidemic some days previous to my first visit, and of course resorted to the specific. The longer the fever continued, the more assiduously the infallible remedy was plied, disregarding hypercatharsis, and when first seen she was in the state of collapse. By the energetic use of friction, external warmth, sinapisms, quinine, capsicum, etc., she escaped with her life. No such cases occurred in persons connected with the garrison; they were invariably promptly reported to the medical officer, and to this circumstance may be attributed their universal recovery.

A more scientific prescription than the foregoing was in vogue—infusion of aristolochia serpentaria, with sulphate of magnesia. It would have been still better without the salts. But serpentaria could not be relied on; it was tried in the first cases, and wholly abandoned.

Medical Statistics of Fort Moultrie during the epidemic.

I.

Officers and men	48
Number of cases of fever	38
Number exempt	10
Deaths	00

II.

Persons attacked, principally women and children.	
Whole number	49
Cases of fever	43
Number exempt	6
Deaths	00

III.

SUMMARY.

Officers and men	48
All others	49
TOTAL	97
Fever cases	81
Number of persons exempt	16
Deaths	00

Fortunately the garrison was unusually small, other companies being on temporary duty in Florida. No attempt has been made at statistics outside of the garrison, the number of persons in each family being too indefinite.

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ARTICLE II.

A HISTORY OF THE EPIDEMIC DENGUE, AS IT PREVAILED IN CHARLESTON IN THE SUMMER OF 1850.*

By SAMUEL HENRY DICKSON, M. D., Professor of the Institutes and Practice of Medicine in the Medical College of the State of South Carolina.

'THE summer of 1850 will be remarkable in the medical history of Charleston for the prevalence of epidemic fever of singular character. The season had been unprecedentedly hot and dry. The thermometer ranged between 80 and 90 for forty days successively, approaching, or even exceeding, the highest of these points, and never falling, *within that time*, beneath the lower. There had been no rain since the middle of May; the earth was parched; the sky dazzlingly clear; the nights, as well as the days, oppressive. Whooping-cough and scarlatina had spread extensively; the latter assuming considerable severity, having occasioned sixteen deaths in the months of May, June and July—one in fourteen and a half of the whole number, two hundred and thirty-three. Yet, on the whole, the city was healthy; the above-named contagious affections were subsiding, and malarious fever giving, on the bills of mortality, but a single example. From whooping-cough the deaths had been twenty-five.

In the last week of July cases occurred which looked like scarlatina, yet presented such obvious differences that they could not be classed under that head. These differences became more and more distinctly marked, until the resemblance was at last entirely lost. Fever, assailing with great violence, ran through a brief course, inflicting intense suffering, and disappeared, in many instances, without any cutaneous eruption, leaving the patient feeble and prostrate, but allowing perfect, though somewhat slow, recovery. As a very large majority of the white population was suffering from prickly heat, it is possible that, in some, the eruption may have occurred and been overlooked; but, in this early stage of the epidemic, it was certainly wanting in a large proportion of instances. As time advanced, the cases became more and more certain to exhibit some exanthematous contingencies,

* As what has been termed dengue, or break-bone fever, was the most prominent disease of the South during this year, and Professor Dickson is considered a sort of *standard authority* on the subject, we feel it to be our duty to give his last essay entire. This is more especially called for, on account of our inability to concur in the views of Dr. D. At the same time, we wish to afford the reader an opportunity to compare his views with those of other writers on the same disease, both in Charleston and other places where it prevailed. It will be perceived, on a careful perusal of this paper, that the distinguished author has rather a knotty subject to handle, and that in this instance, as well as in 1828, there are but few writers who fully agree with him in the views he entertains. We have taken the liberty to add a few brief notes on some questionable points, which, we trust, will not be disapproved of by the able author. The highest compliment we could pay him was to give his paper in full, whilst others had to be condensed for want of space.—ED.

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as far as the white race was concerned. The blacks, throughout, presented numerous examples of the absence of any affection of the kind.

The access of the disease might be slow or sudden. If the former, there was a stage of lassitude, sensitiveness to a current of air, with dryness of skin. A formed chill rarely preceded. Most persons had a dull headache, with some intolerance of light. In general, anorexia was present, though some retained more or less appetite throughout. The tongue was clean and red. Pain gradually diffused itself over the limbs and back; many became drowsy, with red eyes; the pulse usually a little increased in frequency; only in some, remained unaltered; and thus two, three, four or five days would pass off, with great complaint of langor, debility and discomfort. On the fifth, sixth or seventh day, the tongue would become furred, with slight nausea, and an eruption show itself on the surface, with more or less itching. This would vary in distinctness many times in the twenty-four hours, and gradually disappear, leaving the patient to convalesce slowly.

Such was the history of a large number of cases, but in a majority, the attack was sudden and violent. The patient was seized with severe headache, intolerance of light, and universal distress and oppressive debility. The skin was hot and dry; the face flushed; the eyes red and watery; the pulse tense, quick and frequent. The patient was exceedingly restless, and soon complained of intense pains in back and limbs and large joints. In some, the stomach and bowels were the seat of violent pain. The febrile paroxysm was of very various duration; and the local determinations might also vary, except as to the head, which, as far as I have seen or heard, was universally affected. In some, there was delirium throughout the febrile part of the attack. I noted, carefully, in several, the length of the first, or febrile stage. In one, it was only six hours before the skin became moist, and the pulse abated in frequency. In nine hours the remission was well established; but a degree of circulatory excitement prevailed for nearly twenty-four hours, when it left the patient, and did not return. The pain in the head, back and limbs, continued, with little abatement, however, for about forty-eight hours, when they gradually subsided. The patient was up on the sixth day;—but, in this case, there was no eruption. In no other case did I see an eruption of less than twelve hours. The average, I think, was about thirty-six. In a few instances, it lasted for two and three, and seldom for four days. I saw no remision nor intermissions, but heard of many cases, both remittent and intermittent. There was, in the fully-formed attack, two very definite stages, with an interval clear of fever. This interval, of two to four days, was sometimes so free from suffering, that patients would rise from bed and lounge about the house, complaining only of debility, or even, if resolute, resume their ordinary habits and occupations. But, on the fourth or fifth day, they would again yield to oppressive malaise and weakness, and seek the recumbent posture. A return of pain in the head and limbs, if it had disappeared—often, a recurrence of febrile excitement, would mark the access of this second stage. The tongue, which, until now, had been clean and red, would put on a thick, yellowish fur; the stomach would be more or less

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nauseated — very seldom to the extent of retching or vomiting; and this state of things would remain until, on the fifth, sixth or seventh day, some cutaneous eruption would exhibit itself, usually with a sense of heat and itching.

The course of this disease occupied about eight days — not varying greatly from this standard. The differences seemed to be most marked in the extension or contraction of the interval between the two stadia.

With the subsidence of the eruption, all ailment usually disappeard, but slowly and gradually. Almost all complained of a most annoying degree of muscular weakness. A very large proportion were alarmed by the occurrence of syncope in their first attempt to resume the upright attitude and exert the muscles of locomotion; and some few were troubled with stiffness of the back and extremities.

The time of access of the febrile paroxysm, in a majority of those whom I could observe closely, was about ten in the morning — the hour of access of tertian. The subsidence was marked by profuse sweating, in most.

In many, the second stage was attended with great pain, especially in the head, but without fever.

There was a marked difference in the proportion of cases attended with eruption, in the first and latter portion of the epidemic. It became universal, or nearly so, in those who were attacked in the last week of August and in September.

There was a marked difference, too, in the proportion of blacks presenting the eruption. I bent an especial attention to this point, knowing how easy it is to overlook that symptom in the colored patient I directed them to observe for themselves; to report any roughness, heat, or elevation, or itching. Three out of five escaped. It was also more common for them to recover without the supervention of a second stage. This, when it did happen, was denoted, in several, by disorder of the stomach and bowels, cholic, diarrhœa.

In children, convulsions occasionally ushered in the attack. I saw one affected, through the three days of the first stage, with vacillating delirium, resembling closely the condition of delirium tremens — fearful and anxious to avoid some evil. In these subjects, also, the stomach was apt to be disturbed with vomiting, sometimes, of viscid bile. In some, there was painful diarrhœa, rom the first.

No epidemic of which I have ever read was so universal in its prevalence as this. Numerous large households were attacked, without a single exception. Of my family, eleven in number, I alone escaped. In my kitchen fourteen out of seventeen were assailed. All but two of the ten whites had an eruption. In five of the blacks, I am sure there was not the least appearance of this kind; in but two was it marked enough to make one certain of its presence.

In any given domicile, the attacks were apt to be simultaneous, or in rapid succession; so that it often happened that there was in a family no one well to attend the sick.

The latent period was various, but, in certain instances, prodigiously brief. Dr. Bellinger was satisfied with the proof that two persons,

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from healthy localities, were attacked within twenty-four hours, on visiting the city. Dr. Cain, whose opportunities, at the Marine Hospital, were specially definite, saw some cases in which the attack occurred on the day after arrival here. This reminds us of the instances in which typhus infection was immediately efficient, as related by some of our best authorities, Marsh, Thompson, etc. Several examples occurred of attacks within three days; it seldom gave a longer respite than five. When it had much declined in extent and violence, I saw two cases occur on the eighth and tenth days, as late as the middle of September.

Exposure to the cause of disease was also effective in a very short time, visiters to the city on business which detained them but a few hours being often assailed soon after their return home.

The prognosis was altogether favorable. It was, indeed, curious, and highly gratifying to know—as a brief acquaintance with this strange disease taught us—that, furious as was its onset, vehement as the complaints of the patient might be, and his condition however full of menace, these fearful symptoms would subside after a time, and certain restoration to health ensue.

The most alarming phenomena were convulsions—(not exclusively confined to children, they occurred in one adult male)—delirium, great gastric and intestinal disorder, great failure of pulse on the subsidence of the early febrile paroxysm I saw, in some, the heart laboring slowly and heavily, as in bad cases of typhus. Some convalesced with marked slowness of pulse—as low as 40; the cutaneous affection assuming the erysipelatous character, or becoming carbuncular. I saw no death; indeed, fatal terminations were very rare.* I heard of one from mere prostration; two from erysipelas; and two from tetanus, spontaneously supervening. These latter seemed inexplicable and accidental.

The diagnosis of our epidemic presents some difficulty. If we consider the eruption an essential character, we must acknowledge the presence of two forms of fever, coincident and concurrent, deserving, from their frequency, each the title of epidemic; or, we shall be driven to regard a large number of the attacks as abortive and incomplete. In the first onset the two sets of cases presented no appreciable difference; nor was there a single circumstance in their history which could lead to the prediction that eruption would or would not ensue. Nay, as, in a large majority, eruption was the last in a train of symptoms, so, in some, it was the very first, and in others, presented itself within a few hours after the invasion of fever, Some were not thus saved from a second stage, with a second eruption. This I saw, most distinctly, in a case in my own house.†

As to the eruption itself, it deserves a still more special notice. If

* The annual report of the city register shows 21 deaths from this fever—18 whites and 3 blacks. See mortuary report after this article.—Ed.

† Here is a dilemma, from which Professor D. does not extricate himself as well as he ought. As the advocate of a specific disease, he certainly should point out its pathognomonic symptoms.—Ed.

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the question were to be asked of the whole body of the physicians of our city, I doubt whether any two of them would offer the same definition or description of the cutaneous efflorescence, as characteristic or peculiar, while each of them would describe many varieties as occurring under his notice. I will endeavor to portray and class them.

1st. *The Scarlatinous.*—This aspect of the surface was most common in the earlier existence of the disease; and many suppose, very reasonably, that the first cases were regarded and spoken of as scarlatina, which had been very prevalent through the winter and spring. This smooth, diffused redness of skin was usually attended, too, with similar redness of the tongue, lips and gums. It was the character apt to be assumed by the premature efflorescence which sometimes intruded itself on the first stage during the three first days.

2d. *The Rubeolous.*—I denote by this term a brownish, circular eruption, little elevated, rough and furfuraceous. This was not met with except in the maturity of the cases, coming out on the sixth, seventh, and even as late as the eighth and ninth days,—always attended with fever and gastric disorder.

3d. *The Erysipelatous.*—Cases of this sort were among the worst and most serious. In an interesting boy of seven years, the son of a medical friend, the skin of the cheek and temple will be permanently scarred from the sloughing of the cellular membrane beneath.

4th. *The Variolous, or Varicellous.*—This was not frequent; but I saw two cases in which a pustular eruption appeared. I am disposed to class, here, a very extraordinary case of fever which I saw in July, with Drs. Porcher, Bellinger and Moultrie, in which the whole back was covered with pustules, like those of confluent small pox, a few occurring on the forehead and limbs.

5th. *The Lichenoid.*—The resemblance to prickly heat was here very obvious, but the little papulæ were fugacious, and would subside and become prominent many times during the period of their stay, which was not prolonged usually beyond twenty-four or thirty-six hours. These attended the milder class of attacks, and showed themselves often while the patient was beginning to go about. There was no soreness with them, and but little itching or other inconvenience. It was in these and the second form, rubeolous, that we met with the desquamation of the cuticle — so frequent an event.

6th. *The Papulous.*—I saw several of this sort. There was roughness of the skin, with hard points, little elevated, seemingly within the skin. These points were discoloured, sometimes brownish, often of a leaden hue. They were coincident with feeble circulation, slight nausea, vertigo.

7th. *The Phlegmonoid.*—It was ascribed to the heat of the season that boils were so common and troublesome, not only to children, but among adults. Great numbers suffered from these annoying tumors, and carbuncle also was of frequent occurrence. But it was among the patients recovering from fever, or in its second stage, that these affections were most complained of, seeming, in many, to take the place of the more ordinary eruptions.

8th. *The Miliary — Urticarious.*— Punctuate, resembling nettle-

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rash very closely. This was frequently seen, perhaps not so often alone as intermingled with some of the others.

9th. *The Purpurous.*— Purpura was met with several times among this confused variety of eruptive disorders. It was usually of the simple form, but occasionally diffused, echymosed spots were seen, and sometimes sponginess and bleeding of the gums.

I saw, with Dr. Jervey, a case in a negro infant, presenting the exact appearance of lepra vulgaris. It came on and subsided at the same periods of the disease with the other eruptions.

The child of the last-named gentleman was the youngest subject that I have known attacked. It was less than a week old when the disease appeared, with great redness and heat of skin, fever, etc. Its forehead was covered on the sixth day with circular elevations, firm and transparent, very like sudamina.

The name and nature of this disease, and its place on the nosological catalogue, are as yet matters of earnest debate. In common conversation it has received the appellation of break-bone fever, which is so universally adopted, and has become so familiar, that it will be difficult, if not impossible to change it. Indeed, it is so closely analogous with Rush's fever, (so called,) that nothing could be more natural than the adoption of a similar title.

Similar and not less striking resemblances associate it with the well-remembered Dengue of 1828; but here we are at once met by a suggested objection, in the fact that dengue was most truly an arthritis, the joints, and the smaller joints especially, being the seats of swelling, deformity, stiffness and inflammation. It must be admitted, indeed, that these were not the favorite localities of pain and lesion in our present epidemic, but instances are not absolutely wanting of just such derangement. Nevertheless, the resemblance in all other respects is so close, that I cannot help considering the present febrile disorder identical with the prevailing epidemic of 1828, and styling it also Dengue.

Cocke, and after him Copland, give dengue the appellation of scarlatina rheumatica.* We know that all the exanthematous affections are closely related, and that they occur in masses, and run together— nay, doubtless, constitute hybrid diseases. Scarlatina thus intermingles itself with measles. I have elsewhere given an account of such an intermingling. It is noticed also by many writers.

But dengue, whether we consider the type it assumed in 1828, or the modification existing here in 1850, is deficient in any strongly-

* Dr. Copland, in his admirable dictionary, has done me an incidental injustice. In his article on 'Scarlatina Rheumatica,' as he styles dengue, he says that I 'was unacquainted with the accounts of the eastern prevalence of the epidemic, contained in the transactions of the Medical and Physical Society of Calcutta.' I know not how he could have overlooked my reference to Dr. Mellis' paper, published in those transactions, which is clear and explicit. In Hay's Journal, (American Journal of Medical Sciences) vol. 4, near the top of page 63, occur these plain words, in the argument upon the contagious transmission of dengue: 'We hear of it in Bengal in 1825,' etc.—Prof. D.

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marked resemblance to scarlatina. Some of the cases present a condition of the surface and of the tongue very similar to the smooth, red, diffused inflammation, and the red tongue of scarlatina mitis, and a few suffer from sore throat. This was more frequently the fact in the early part of the present season, when we might reasonably suppose that some of the scarlatinous poison, so influential during the past months, still lingered in the atmosphere. But even then, the proportion of those who escaped without any cutaneous eruption was considerable; and as the summer advanced, and the disease became widely epidemic, attacking great numbers, while the proportion of those who exhibited the eruption as a system was greatly increased, still the proportion of the scarlatina-looking cases diminished. During the last weeks of its prevalence, I saw none whose aspect was suggestive, *in any degree*, of scarlatina. Farther, I cannot remember an instance of true scarlatina in which numerous complications, unknown in dengue, failed to appear. The latter showed none of the urinary derangements, gave out none of the peculiar odor of the first, nor did any single case, so far as I know, exhibit any of its sequelæ, so common, as, for example, dropsical accumulations. Dengue, with its various eruptions, had its own peculiar odor, assailed the viscera and glandular and secretory organs lightly and transiently, if at all, but spent its force on the fibrous tissues, on the smaller joints, in 1828; in 1850, on the masses of muscular structure; in both, on the encephalon. Scarlatina is terribly remarkable for the tenacity of the local determinations that arise during its progress, and for the permanence of some of its sequelæ. Dengue, both in 1828 and 1850, was alike remarkable for the fugitive caprice with which its violent assault changed its seat, or vanished, leaving no trace; and for the agreeable fact that convalescence, though rendered somewhat slow by debility, was uninterrupted by any infliction of lasting evil on any part or organ.

The few exceptions to the literal accuracy of this statement separate it, as well as does the rule, from scarlatina, in its history. They were, so far as I have learned, confined to lameness and deformity of joints, in rare instances, in 1850—not more than a single one that I know of, and several in 1828; in the former year, to a few scarred by erysipelas, or marked by the opening of phlegmonous tumors or carbuncle.

The epidemic of this year was as remarkable as the dengue of Calcutta in 1825, and of St. Thomas, for the universality of its sway. Is this consistent with its supposed identity with scarlatina? This contagious pestilence had been prevailing four or five months in the city before our recent epidemic appeared. It is probable that a very large proportion of the inhabitants were entitled to immunity from any further attack of scarlatina, as far as one invasion of that exanthem is protective. All the children in my family but the two youngest had been its subjects. Eight took the new disease; the two infants not suffering quite as severely as the rest, though more predisposed to scarlatina, and, on the supposition of their identity, liable to the more ordinary form of the disease, unmodified and unmingled by any previous protection. Nor was the eruption in them at all like that of

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ordinary scarlatina, but in both lichenous and papular intermingled. In fact, children, who are our worst patients in all the varieties of scarlatina, suffered less from our late epidemic than any other class of subjects.

No one can read over Rush's graphic description of the break-bone fever, or remittent, prevailing in Philadelphia in the summer and autumn of 1780, without recognising the history of our recent epidemic. On a former occasion I have, after noting the close resemblance between Rush's fever and the dengue of this city in 1828, concluded that, 'although presenting some curious coincidences, the two maladies are in nature essentially distinct and different; one being an eruptive fever, new, specific and peculiar, while the other is nothing more than an autumnal remittent—a malarial fever, somewhat modified by an unknown agency.' I still hold dengue to be an exanthematic fever; but I am now convinced that the Philadelphia epidemic of 1780 was essentially dengue, though modified.* I believe that our recent epidemic was identical with them both, but somewhat modified, so as to present points of obvious dissimilarity with either. Take an abstract of Rush's history of his remittent:—'It affected all ages, and both sexes. Medical men would seem to have been specially liable to it. No other febrile disease was observed during its prevalence. It came on sometimes with rigor, seldom with a chilly fit, and often without any sensation of cold. Many instances occurred in which it was introduced by a delirium. The pains which accompanied it were excessively severe in the head, back and limbs; in some, they affected the neck and arms, and in one case produced a difficulty of moving the fingers of the right hand. Hence the disease was sometimes believed to be a rheumatism, but its more general name, among all classes of people, was the break-bone fever. A nausea universally, and, in certain instances, vomiting attended. The pulse was full and quick, but never hard. There was little or no thirst. A rash often appeared on the third or fourth day, accompanied by a burning in the palms of the hands and soles of the feet. Convalescence was slow and tedious. The disease was seldom fatal. The treatment required was singularly mild,' etc.

Nothing is wanting here to make a perfect portrait of our recent epidemic, but the introduction of a proper notice of the eruption, which is in the above only alluded to rather slightly, as a '*rash*,' which often appeared, was favorable, but was not so prominent as to occupy any marked place in the mind of the writer or the history given us. But, although occasionally absent, and, as I have said, not unfrequently in one large class of patients—the blacks—no physician among us would consider that he was justified in speaking of it otherwise than as a most distinct and prominent portion of the disease prevalent here.

In comparing the epidemics of the two years, 1828 and 1850, we

* Since Professor D. has changed his opinion, and is now convinced that the epidemic of 1780 was essentially dengue, we must be permitted to think that his first definition of that disease is most correct, and equally applicable to this, viz., 'a malarial fever, somewhat modified by an unknown agency.'—Ed.

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must admit that there was less uniformity in the appearance of the cutaneous affection recently,—that it observed less definite periods of bursting forth,—that its coming out gave less relief to the patient; it was wanting, also, if I am not much mistaken, in a much larger proportion of cases. Many got well promptly, without any appearance of it, whereas, in 1828, I did not venture to consider any one as convalescent until it had been thrown out fairly. Dr. Daniel, of Savannah, contended for the correctness of this view of the matter, and stated that when the eruption had been repelled or prevented from appearing by mismanagement, almost every part of the system was liable to be seriously attacked. Several cases of mania, as consequent upon repelled eruption, he affirmed occurred within his observation, and referred to a case of tetanus thus produced, which terminated fatally.

It must be acknowledged, that such did not seem to be its nature and exigencies in 1850; that is, if we assume the presence of but a single epidemic. If we farther assume that any one form of exanthem was essential or characteristic, and that no departure from it is to be accounted as a consistent or integral part of the disease, we shall be forced to conclude that a large majority of the cases did not present any such eruption, let us choose whichsoever of the varieties offered.*

If we go still deeper into the philosophy of the exanthemata, and admit that some poison is to be eliminated from the blood, in order to the full development of these maladies, we shall scarcely be able to rank our dengue under that head. Yet it possesses so many of their properties, that we shall scarcely be able to find it correctly placed elsewhere. We should remember, too, that the several eruptions of typhus, or typhoid fevers, are quite as irregular, quite as often wanting, and quite as indefinite and unessential. It may occupy a middle position, between maculated typhus and the exanthemata proper, such as small-pox, measles and scarlatina.

I am persuaded that the dengue of 1828 gave a certain degree of immunity from the epidemic of 1850. On looking over my notes, I find among the names of those whom I then attended, several of the few exempts of this year. If there occur some apparent or real exceptions, and if many can be found who affirm that they have suffered from both, I would ask attention to the following reflections.

First.—It is not easy to say of such alleged examples, that they went fully through the first attack. I have said that the eruption did not appear on all my patients this summer. If it be essentially an exanthem, these are abortive attacks, and will not be protective hereafter.

Second.—The length of time that has intervened—twenty-two years—will suffice to account for a very general renewal of susceptibility. Dr. Schleisner, in his medical notes on Iceland, tells us, that an interval of thirty-four years occurring between the two visits of small-pox to that island, 'many old persons who had it before took it again.' On this principle, re-vaccination is now become fashionable.

Third.—Some persons never go through those obscure processes,

* If Dr. Dickson dispenses with the exanthematous feature of his dengue, he will have but a slender basis left on which to rest its specific nature.—Ed.

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whatever they may be, which give this sort of immunity, but remain liable to successive attacks of small-pox, etc.

Of the cause, or mode of origin of our epidemic, I have little to say. If a true scarlatina — modified in any way, as Cocke and Copland have it — we may regard it as nothing more than a continuance of the scarlatina epidemic in the spring, with certain changes impressed on it by season, temperature and other contingencies, known and unknown; but if we reject this hypothesis — as I have no hesitation in doing, for reasons above assigned — we must look elsewhere for its source. If we consider it a new disease, we must suppose it to have sprung from certain new causative agencies, or new combinations of the old and familiar. But it is not allied in any way to our climatic fevers. It is neither intermittent nor remittent — typhoid nor congestive. It was not met with where malaria exerts its potent sway.* It prevailed in those salubrious spots whither we resort in summer and autumn to escape bilious or malarial attacks — as the city of Charleston — the pure air of Sullivan's Island and Eddings' bay. We hear of it, indeed, in several places remarkable for healthfulness — as Aiken, especially.

If we look upon it as dengue, we must begin the inquiry as to its source by the acknwledgment that the spontaneous production of the class of diseases among which we place it is rare. But it is not impossible. Even variola itself has been known to spring up suddenly, without any connection with previously-existing variola. Such is often the case with typhus, associated as it is, by so many pathologists, with the exanthems. Our season, I have said, was a very peculiar one. The heat was, in intensity, almost unprecedented: in protraction, it was absolutely so. Its continuousness was distressing to a degree beyond description. Many persons, who never complained of heat or hot weather before, were annoyed almost to madness by it. Cutaneous eruptions were almost universal. Adults, who had never remembered themselves affected by prickly heat, were covered with it. The cutaneous integument was, in all, either irritated or excessively relaxed with profuse sweating, or both. Boils were a common infliction, both in children and adults. I think I can safely say that, in thirty years' practice, I never saw any thing comparable to it. Some of these were highly inflamed and troublesome. Anthrax was also of singularly frequent occurrence, and tormented some of the most temperate and healthy of our population. There seems to be some reason to expect that the skin would be the seat of special determination in any form of disease that might arise under such contingencies of atmospheric condition. But we do not thus arrive at any suggestion of sufficient cause for the effect — the latter being local and circumscribed — the former being very extensively diffused: our whole southern country, its sea-coast especially, being subjected to the very same contingencies, as far as they can be noted.

* If the dengue is not allied in any way to our climatic fevers, it is passing strange that it should prevail at the same places and the same time they do. Our statistics of fever, in another part of this volume, would appear to indicate that 'malaria exerts its potent sway' in this locality, and here dengue was said to prevail extensively.—Ed.

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Osgood, of Havana, supposed that dengue, in 1828, was produced by the cause of yellow fever, whatever that may be. Dr. Waring, of our neighboring city. Savannah, Ga., regarded it as closely analogous both with the 'break-bone' fever of 1826, and the epidemic bilious-remittent of 1827, which differs little, if at all, in his view, from yellow fever; thus mingling together yellow fever, bilious-remittent, break-bone fever and dengue. Dr. Daniel, of the same city, also looks upon the dengue of 1828 as identical with the 'break-bone fever' of 1826—though he considers the former truly exanthematic; and we know that the latter was not described as essentially eruptive.

In the autumn of 1828, yellow fever followed closely upon the heels of dengue. Our recent epidemic—I will call it dengue—followed so closely upon scarlatina, that it was not, at first, perhaps, promptly distinguished from it. So far as I know, Dr. Moultrie was the first to have been struck with the difference, and to have made the correct diagnosis. In this latter fact, Cocke and Copland would find confirmation of their pathology and nomenclature. In the former, Osgood and Waring would find support for their notion of the identity of dengue with yellow fever. Break-bone fever, whether in Philadelphia, Savannah or Charleston, has been recognized by many physicians as remittent, and classed with malarious affections. I have said that I saw no case, properly remittent or intermittent. The interval between the stadia of our epidemic of this season was considered by some an intermission, by others as a remission; how correctly, I am willing to leave to the decision of any one who has carefully collated the history of the attacks. I will not deny the occasional superposition or intermingling of our epidemic with the ordinary endemic remittent; nor the protraction of certain examples into a continued typhoid state. But these are readily separated from the ordinary and well-marked cases.

If dengue, as I believe, as I formerly maintained, and as I suppose is generally admitted, be a contagious disease; and if, as I farther believe, our recent epidemic be truly dengue, then we have another mode of causation, natural and obvious, to refer to.* The germ of every form of contagious or reproductive pestilence is endowed, as we know, with a most tenacious vitality. The nut-grass, the cockle-bur and the dandelion, so hateful to the farmer, are not more difficult to exterminate, not more ready to spring into activity and fertile growth, than the generative principle of any of the cantagions. Since 1828, there have been numerous occasions on which dengue—or some disease so called—has appeared at different points in our southern country.

From its peculiar tendency to modify itself, as we have already seen, it is very likely to have happened frequently without being recognized. We hear of it in Savannah, from Dr. Arnold, in 1849; it is said to have shown itself in Natchez in 1848, in Mobile, in 1844. I think it has often been met with among the ephemeral fevers and 'the mild

* On this point, so far as we have been able to ascertain, Dr. Dickson stands entirely alone, although he supposes that Dengue is 'generally admitted to be a contagious disease.'—Ed.

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fevers of one paroxysm,' produced, as some imagine, by the cause of yellow fever in acclimated persons.

I find in my common-place book, for 1831, the following memorandum, which may seem somewhat in point here.

'During this summer and autumn, I have observed our remittents to complicate themselves with an exanthem, which, appearing at an irregular period, but usually about the third or fourth day, puts an end to the attack. From the muscular and other pains, which precede the eruption, some have dreaded the return of the dengue; while others maintain that it is a new disease, which they have denominated "the three days' fever."

I regret that this meagre paragraph is all that I have recorded on the subject; perhaps its publication may call forth some better and fuller notice of the diseases of that season. At any rate, there is an obvious resemblance in the brief and vague description given, to the history of our present epidemic.

Thus, perhaps, we trace its continuous, or almost continuous, existence among us, since — shall we say 1780 — or 1826, or 1828, when we supposed it to have been introduced through the West-India Islands, whither it had been brought from Calcutta, where Mellis described it in 1825.

I have spoken of the tenacity of life in the germs of vegetable existence, and of reproductive diseases. Something may be added, as to their singular facility of transportation, whether in and upon the bodies of the sick, or by obscure fomites. The subject is too vast to be discussed here, but the result of the whole inquiry is well summed up in an incidental remark from an impartial pen. The Rev. J. Williams, in his interesting work on the South-Sea Islands, says: 'It is certainly a fact which cannot be controverted, that most of the diseases which raged in these islands, during my residence here, have been introduced by ships. What renders the fact remarkable, is, that there might be no appearance of disease among the crews of the ships which conveyed the destructive importation.' Similar statements have been made, as to the occurrence of various maladies among the inhabitants of the Orkney Islands, upon the arrival of strange vessels in those ports of little intercourse, although the crews might be entirely healthy. So we find some analogy in the assertion, that the progress of civilized man on our continent may be tracked, as well by weeds which he carries with him unconsciously and unwillingly, whose seeds germinate along his pathway, and by his diseases, both unknown previously to the land and its aborigines, as by the choicest products of his agricultural skill, and by his nicest improvements in the arts, which promote the comfort and enjoyment of life.

I do not mean here to refer only to the introduction of new diseases, which almost always commence in sea-ports, and, therefore, seem to have been imported from abroad, but would apply the observation just made to the retention of the germinative or reproductive principle — its preservation in a latent and unperceived condition, as it must have been preserved in the cases alluded to. Dengue,—its seed,—its original germ,—its reproductive principle,—in whatever form—a cell, a

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sporule, an animalcular ovum, may have survived here all contingencies since 1828, and finding appropriate and congenial circumstances in 1850, burst forth into epidemic fertility.* A very troublesome insect was observed to infest our orange trees in 1828; it has since destroyed thousands. Efforts of every kind have been energetically made, but in vain, to put an end to it. It defies them all, and has spread over our fig-trees also, and oleanders. It is a visible form of life. The cause of dengue is invisible, but it is no less a form of life, if contagious and reproductive. Can we wonder that it continues to exist among us, and that it shows itself only occasionally, when fostered by circumstances? So it is with the locust, the palmer worm, the army worm; so we find one year productive of apples, of peaches, of grapes, and other years exhibiting, in the same fields and orchards, a marked deficiency.

It is not in my power to define, as yet, the limits of our epidemic. It was, however, circumscribed within somewhat narrow bounds. It seems to have shown itself nowhere so early in the season as here, and nowhere but in situations holding intercourse with us. A very general impression has arisen, that cases coming from Charleston have been the foci of new cases, and the exclusive sources of the malady where it has spread. I have no difficulty in accepting this popular, as the correct view of the matter; those who are dissatisfied with it, may discover or invent a better. As to the impossibility of following up the cases from a centre or centres, and the rapidity of its epidemic extension, when introduced or commenced, I am entirely indifferent. From the first case, from the first sporule, cell or ovum, when developed and stimulated into active life from its latent condition, may have sprung myriads of germs of easy diffusion on all sides. "The epidemic constitution of the atmosphere," which mean *nothing* a few lustrums ago, may now include as well a hypothetical infusion of fungi or noxious animalcules or their ova, as any chemical or physical inquination. The former constitute the more plausible agents, merely because of the reproductive quality which they possess, and which the latter want.

The pathology of our epidemic is obscure. Death from dengue is unknown, or almost unknown, and I have already spoken of the multiplicity and protean variety of its modes of infliction. It impresses few notable changes on the organism. Its seat is, I think, in the fibrous tissues; its nature altogether unknown. The determination to the parts affected seemed to be rather neuralgic, than inflammatory or congestive. This we would infer from the fact that they were so intensely painful, and yet left so little change; disappeared so completely, sometimes so promptly. On examining the heart, during the tedious convalescence, with very slow pulse, I found in some the same condition denoted in typhus by impairment of sound and feeble impulse; perhaps from softening of the organ. Hence the frequent faintings when patients first resumed the erect posture. In one case, the affection of the cerebro-spinal axis, shown by the violent headache, delirium, pain in the back, etc., subsided into rigidity of the lower limbs, not yet gone

* This is a little beyond the stretch of our fancy.—Ed.

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off — indicating, perhaps, vertebral congestion. I have already alluded to two cases of fatal tetanus, suggesting similar reflections. In very few have there remained the swellings and deformities of joints, so common after dengue in 1828, and so obstinately persisting.

Of the treatment I have little to record. All my medical associates came to look upon this strange disease, as one so certain to terminate favorably, that they were not called upon to interpose any active remedies for suffering so transitory. Some followed the *medieine expectante* almost absolutely — advising only rest in a recumbent posture, with cold applications to the head and warm pediluvia. Others added sub-acid drinks — I mean enjoined them as somewhat remedial. The patient took them readily, though there was little thirst. Prof. Frost used the lancet, though rarely, as a palliative in the violent headache of the first stage, and, as he tells me, with pleasant effect. Many prescribed, at the onset, a mild cathartic, Epsom salts or a seidlitz powder, abstaining from farther prescription. Some maintain that a full dose of a mercurial was useful. Leeches, vesicatories, and a great variety of counter-irritant and soothing applications, were made to the seats of pain, with reported benefit. Leaving this matter to the patient, I saw no marked advantage from numerous experiments made with care. The subsidence of the first stage of febrile excitement afforded a good opportunity for the exhibition of quinine, to those who believed the disease remittent or intermittent. I advised it to a few — and saw it taken by others — uniformly, as I thought, with annoyance and injury — never with any good result. Opium was employed almost universally — by some exclusively. It did not seem to me indicated so forcibly as in the arthritic affection of 1828, yet it was often highly serviceable. It was certainly our best palliative. Even in the first stage, when it seemed of equivocal applicability, it gave a quiet sleep followed by a copious diaphoresis. A considerable portion of my patients, however, were drowsy from the commencement, and several spent nearly the whole of the first stadium in spontaneous sleep. All seemed to derive some solace from moderate doses of tinct. opii camph., in the interval and during the second stadium.

As in typhoid affections, stimulants were often found eminently useful, and great numbers are ready to affirm that they can ascribe the first sensations of returning comfort to an indulgence of this sort on the part of their physician. One would take wine, another malt liquors, and a third brandy in preference. Whenever the pulse was inordinately slow, and the heart's action labored and dull, I administered stimulants freely. So, also, when the skin was cold, or covered with profuse sweat, or the eruption became purple or livid. The apparent atrophy or remarkable emaciation of many convalescents continued, until they were advised to resort to some stimulant; under the effect of which, alimentation would seem to have been promptly resumed, and the food taken became at once more nutritious.

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ARTICLE III.

HISTORY OF THE BREAK-BONE FEVER—AN EPIDEMIC WHICH PREVAILED IN CHARLESTON IN THE SUMMER OF 1850.

BY WILLIAM T. WRAGG, M.D.*

DR. WRAGG says the disease began to prevail as an *epidemic* about the last of July and the beginning of August; but 'several weeks previous to this, cases had been appearing with symptoms in many respects identical, and even as far back as June, when scarlet fever was prevailing, something of the same kind had been noticed by Professor Moultrie.' The disease raged epidemically till the 15th or 20th of September, a period of about six or seven weeks, and occasional cases presented themselves subsequently. He mentions the 'extraordinary universality' of the epidemic, affecting all ages, sexes and classes of the population, 'from infants of one week old to octogenarians.' He says a few perished, 'mostly from neglect in seeking timely aid, or in consequence of previously-impaired constitutions.' He thinks seven or eight-tenths of the population may have had the disease, and that ten thousand is not too high an estimate for the number sick at one time.

Dr. Wragg gives a minute description of the symptoms, in which we will not follow him closely. He says the fever was usually ushered in with a chill, and accompanied for many hours by a chilly sensation, alternating with flush. The excruciating pains of the head, abdomen and limbs were the most distressing symptoms.

As the *eruption* is considered to be the distinguishing feature of dengue, we will quote the author's words in regard to it:—

'In the majority of cases, there was a distinct eruption upon the skin, making its appearance, in some cases, even earlier, and before the fever began to subside; in others, much later, and not until long after all other traces of the disease had disappeared. Sometimes it was confined to the head and neck, often extending over the whole body. This eruption was not at all peculiar in its character, but varied almost infinitely. In many cases it resembled scarlet fever so nearly as to deceive the closest observation. Among the first patients I saw, was a child, in whose case there was sore throat, and whose skin presented the scarlet discoloration so distinct and vivid, that I did not hesitate,

* As we cannot make room for the whole of this paper we shall endeavor to give a fair synopsis of the author's views.—ED.

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at first, to call it scarlet fever: but as the case afterwards progressed differently, I was compelled to change my diagnosis. A German woman, six months from Europe, had the skin over the whole body scarlet. A child of eight months old had a rose-colored. raised eruption, like rubeola. This color occurring in a case where the eyes were red and watery, would resemble measles—and the eyes were often of that appearance. In another child, the eruption which followed the disease was a remarkably well-characterised case of impetigo. In other cases, the eruption resembled scarlet rash. Again, the whole skin was intensely red, and raised in large and numerous welts. In some cases it was erysipelatous—in others, petechial—in others, again, like common prickly heat,—and, in a few, papular.'

It would thus appear that an eruption of various kinds occurred in a majority of cases; but Dr. Wragg does not contend for its being pathognomonic of the disease.

Of the hemorrhagic tendency, he says,—'Hemorrhages from the mucous surfaces were very common. I have seen them from the nose (in some instances very profuse), gums, tongue, fauces, stomach and bowels. They were not usually, however, excessive or obstinate.' Here we have a striking resemblance to our fever in New Orleans, and we regret that the Doctor did not give a more particular account of the cases with *hemorrhage from the stomach.* We should like to know the difference between the ejecta in these cases and the *black vomit* of yellow fever. Among the hemorrhages so common, Dr. Wragg does not mention *uterine;* and his experience in respect to the effect of the disease on *pregnant females*, is quite at variance with that of Dr. Campbell, of Augusta. He says—

'In reflecting upon the great violence and prevalence of these symptoms, it seems very remarkable that the aged escaped so well, and still more singular that pregnant women were able to go through the disease without suffering abortion, I saw females in all stages of gestation, escape even the appearance of uterine action; and among my professional friends, I have met with but one who saw abortions follow the disease. This gentleman reports three cases.'

Touching the duration and severity of the disease, and the *intermittent* character of the fever, about which much difference of opinion seems to exist, Dr. Wragg says:—

'The duration of the disease, and its severity, varied very much. The fever, in some cases, was scarcely perceptible, or only existed for a few hours. In others it lasted from *three* to *six* days, and in a few it became intermittent, and continued *two* or *three* weeks. A medical gentleman informed me that his daughter had been confined to her room for three weeks, during which time she had fever.

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'In some cases, the fever appeared to be wanting entirely. The patient would suffer for one or two days with pain in the back, head and limbs, with giddiness, foul tongue, nausea, restlessness and fatigue, all of which symptoms would gradually wear off, and then would follow that extraordinary weakness, which was, perhaps, the most important of all the symptoms in a diagnostic point of view. After a few days, the eruption would come out in the form of heat, boils, carbuncles or abscesses. This array of sequelæ would satisfactorily indicate what had been the matter.

'The average *duration* of the first febrile stage might be set down at from three to five days, though, as we have just seen, it might be shorter than the first, and much longer than the second, of these periods.'

Dr. W. speaks of the great prevalence and distressing effects of *boils, whitlows and carbuncles*, in connection with this fever, but we should think they might more properly be considered apart, and as arising from the long-continued hot weather. The brain and nervous system suffered greatly in this disease, sometimes presenting symptoms resembling *delirium tremens*, accompanied by strange hallucinations. Dr. Wragg mentions the frequency of relapse observed by other writers on this complaint, —says he knew one person to have as many as *three*, and that they were generally worse than the first attack.

As the season wore on, there was a marked tendency, in cases that had not been properly treated, to run into the *typhoid* type. He says—'Several cases of this kind fell under my observation, and one offered a most remarkable specimen of a purely nervous fever. The patient died twenty-eight days after the invasion of the nervous symptoms, and seventy from the first attack.' He mentions two other cases of this kind, one of which continued thirty, and the other forty-two days. We would ask, Can such cases properly be called *dengue?*

Dr. Wragg throws no light on the *etiology* of the disease, but seems inclined to attribute it to the protracted heat and drought, together with the want of the usual quantity of electricity. Whether these causes produced an '*atmospheric poison*,' or an '*uncommon electrical condition of the air*,' capable of giving rise to the disease, he is not prepared to decide.

Dr. Wragg says, 'febrile diseases of the ordinary types were remarkably rare, especially the severer cases of remittent and intermittent fever;' yet, in the very next sentence, he remarks, 'Cases of a mild form had been observed to a considerable extent.'

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He mentions the curious fact, that notwithstanding the large number of *white laborers* on the buildings and streets, 'not a single death from *coup de soleil* is recorded in the bills of mortality.'

Dr. Wragg goes into a lengthy discussion of the question of the *identity* of break-bone fever and dengue, and arrives at the conclusion that they *are not the same disease*, which is opposed to the recently expressed opinion of Professor Dickson. He quotes numerous authorities on the subject, and plainly points out the differential symptoms. They are as follows:—

'The break-bone fever made its invasion by the usual symptoms of fever—the pain coming on gradually; the dengue attacked suddenly, a severe pain in some closely circumscribed spot, usually a small joint.

'In the first, the pain and soreness were in the flesh; in the second, principally in the joints.

'In the first, there was seldom any pain or swelling of the articulations; in the second, these were almost universal consequences. Among the numerous sequelæ of the break-bone fever, I saw but one case in which the joints suffered, and then it was the ankles in a rheumatic subject, and not the small joints.

'In dengue, there was such soreness in the hands left, that laboring men, for weeks, were compelled to work with their hands wrapped in rags. (Nicholson, loc. cit.)

'In 1828, ships sailing from this port were often placed in great jeopardy by illness of their crews with dengue. In a case that came particularly under my notice, the sailors were all ill at one time, and when they made their appearance on deck, after the fever was over, their hands were so painful that, though wrapped in canvass, the contact of the ropes brought tears to their eyes. I did not see or hear of a single such case in the break-bone fever.

'The eruption in dengue is constantly described as resembling scarlet fever, sometimes slightly raised in wheals. In break-bone fever, it has been seen to be of almost every form. In an article just from the pen of Professor Dickson (Charleston Journal, November, 1850), ten different kinds are enumerated, viz.: scarlatinous, rubeolus, erysipelatous, variolous or varicellous, lichenoid, papulous, phlegmonoid, miliary or urticarious, purpurous, and lepra vulgaris. In another place I have mentioned still other forms.

'Pregnant women, as we haveseen, were remarkably liable to abortion from dengue. I have said that, after diligent inquiry, I could only hear of three cases of this kind, though I had patients in almost every stage of utero-gestation, even within short periods of their full time.

'The dengue has been said only to attack once, provided the eruption was fairly out (though the authorities are not unanimous on this point). I have seen as many as three well-marked attacks of break-bone fever, and frequently two, in the same individual.

'In Professor D.'s article (in the Charleston Journal, November, 1850), he makes the following statement at page 721: "I am persuaded

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that the dengue of 1828 gave a certain degree of immunity from the epidemic of 1850. On looking over my notes, I find among the names of those I then attended, several of the exempts of this year." I am disposed to attribute this exemption rather to the age of the individuals, as it will presently be seen that old persons were especially favored by the break-bone fever. Those still in the prime of life, who had dengue in 1828, had no exemption, so far as my observation went, from break-bone.

'In break-bone fever, hemorrhages were frequent. I find no mention of this symptom either in the East or West-India dengue, or of that of 1828, in Charleston.

'A remarkakle difference, and perhaps one of the most important, was the excessive debility in the break-bone fever, which had no resemblance to anything that we know of the dengue. In the latter disease, the convalescence, except the affections of the joints, was tolerably prompt; in the former, we have seen how different the case was, both in the epidemic I am describing, and that related by Rush.

'The sore mouth, so generally observed in dengue, was not one of the symptoms of break-bone fever.

'The frequent and sudden shifting of the pain from spot to spot, or from joint to joint, was not seen here.

'In dengue, the disease went hardest with the old; in break-bone fever, it was mild, and, indeed, most of the exemptions I saw were with elderly persons.'

Notwithstanding these differences, Dr. Wragg is willing to admit that the diseases strongly resemble each other in many points.

In regard to *contagion*, Dr. Wragg says—'I do not think it contagious because its invasion was so sudden and general, all over the city, that any attempt to trace it from patient to patient, from house to house, or from quarter to quarter, would utterly fail.' He cites numerous instances of persons going from Charleston to other places, where they were attacked by the disease without communicating it to their attendants.

In respect to *treatment*, Dr. Wragg says there was but little variation among the physicians of Charleston. Their chief reliance was upon gentle cathartics, stimulants and opiates. He is opposed to the view that 'the disease is essentially self-limiting in its nature,' and believes that it was eminently under the control of medicine.' He says, 'there was a proneness to relapse which almost took the form of periodicity.' For this he gave quinine, but it sometimes proved insufficient, and he then advised a change of air.

Such are the views of Dr. Wragg on this interesting epidemic. The reader may compare them with those of Professor Dickson and surgeon Porter, of the same place and vicinity.

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ARTICLE IV.

ON THE MORTALITY OF CHARLESTON.

BY JOHN L. DAWSON, M.D.

A CLASSIFIED TABLE OF THE DEATHS in the City of CHARLESTON, South Carolina, for the Year 1850:

Re-arranged from the Annual Report of John L. Dawson, M.D., the City Registrar,
BY J. C. SIMONDS, M. D.*

DISEASES.	Whites.	Blacks.	Total.
TOTAL	375	482	857
Unspecified	10	5	14
Specified	365	477	843
A. Zymotic	102	99	201
B. Sporadic	234	364	598
C. External	29	14	43
A.			
I. Epidemic	60	55	115
II. Endemic			
III. Monoxysmal	42	44	86
B.			
IV. Variable	33	77	110
V. Nervous	51	103	154
VI. Respiratory	76	92	168
VII. Circulatory	9	6	15
VIII. Digestive	22	28	50
IX. Urinary	—	—	—
X. Of Males	1	..	1
XI. Of Females	8	10	18
XII. Locomotive	3	5	8
XIII. Integumentary	1	..	1
XIV. Of Senses	—	—	—
XV. Old age	24	35	59
XVI. Still-born	6	8	14
C.			
XVII. Casualties	15	8	23
XVIII. Exopathic	..	1	18
XIX. Esopathic	14	4	1
XX. Treatment	..	1	1

DISEASES.	Whites.	Blacks.	Total.
CLASS I. AND II.			
Cholera morbus	3	7	10
Diarrhœa	3	4	7
Dysentery	1	2	3
Fever, intermittent	3	..	3
" dengue	18	3	21
" typhus	13	12	25
Erysipelas	3	1	4
Influenza	5	14	19
Cholera infantum	9	9	18
Croup	2	3	5
TOTAL	60	55	115
CLASS III.			
Whooping cough	9	33	42
Scarlatina	33	11	44
TOTAL	42	44	86
CLASS IV.			
Marasmus	..	17	17
Teething	17	24	41
Dropsy	9	23	32
Hemorrhage	..	3	3
Abscess	3	1	4
Gangrene	1	2	3
Cancer	3	4	7
Scrofula	..	3	3
TOTAL	33	77	110

* As Dr. SIMONDS' classification of diseases has been mostly adopted in the vital statistics of this volume, at our request he has re-arranged the beautiful table of Dr. Dawson, so as to correspond. Dr. Dawson had adopted the classification of the American Medical Association, and we should not have made the change but for the convenience of comparison.—ED.

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A CLASSIFIED TABLE OF DEATHS, ETC.—*continued.*

DISEASES.	Whites.	Blacks.	Total.
CLASS V.			
Apoplexy	9	12	21
Brain, congestion of	5	..	5
Cephalitis	..	8	8
Brain, disease of	2	..	2
Hydrocephalus	1	1	2
Insanity	4	1	5
Epilepsy	1	2	3
Convulsions	11	29	40
Tetanus	1	6	7
Trismus nascentium	3	34	37
Paralysis	10	10	20
Neuralgia	3	..	3
Myelitis	1	..	1
TOTAL	51	133	154
CLASS VI.			
Sore throat	5	1	6
Bronchitis	1	1	2
Pleurisy	1	2	3
Pneumonia	9	18	27
Consumption	50	58	108
Hydrothorax	6	8	14
Asthma	..	4	4
Organs, diseases of	4	..	4
TOTAL	76	82	168
CLASS VII.			
Aneurism of aorta	1	..	1
Artery, ruptured	1	..	1
Pericarditis	..	5	1
Heart, diseases of	6	1	11
Organs do.	1	..	1
TOTAL	9	6	15
CLASS VIII.			
Gastritis	11	16	27
Enteritis	3	1	4
Colic, painters'	..	2	2
Indigestion	2	..	2
Worms	.	6	6
Peritonitis	2	..	2
Hepatitis	3	2	5
Jaundice	..	1	1
Spleen, disease of	1	..	1
TOTAL	22	28	50

DISEASES.	Whites.	Blacks.	Total.
CLASS IX.			
Urinary	—	—	—
CLASS X.			
Urethra, stricture of	1	..	1
CLASS XI.			
Amenorrhœa	..	1	1
Netritis	..	1	1
Organs, disease of	..	1	1
Child-birth	7	4	11
Puerperal fever	1	3	4
TOTAL	8	10	18
CLASS XII.			
Rheumatism	3	4	7
Spine, disease of	..	1	1
TOTAL	3	5	8
CLASS XIII.			
Carbuncle	1	..	1
CLASS XIV.			
Of Senses	—	—	—
CLASS XV.			
Old age	24	35	59
CLASS XVI.			
Want of vitality	6	8	14
CLASS XVII.			
Accidentally killed	10	2	12
Drowned	4	5	9
Burns	..	1	1
Sun-stroke	1	..	1
TOTAL	15	8	23
CLASS XVIII.			
Killed by design	..	1	1
CLASS XIX.			
Intemperance	12	4	16
Suicide	2	..	2
TOTAL	14	4	18
CLASS XX.			
Amputation, effects of	.	1	1

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NUMBER OF DEATHS, WITH AGES.

AGES.	WHITES.		BLACKS AND COLORED	
	Males.	Females.	Males.	Females.
Under 1	20	23	55	63
1 to 5	25	30	34	49
5 to 10	10	7	12	9
10 to 20	7	5	18	18
20 to 30	31	17	16	22
30 to 40	36	19	20	21
40 to 50	34	16	15	14
50 to 60	19	6	18	15
60 to 70	13	11	18	15
70 to 80	7	14	12	8
80 to 90	3	8	7	16
90 to 100	1	1	0	6
100 and over	0	1	0	1
TOTAL	216	158	225	257

DEATHS IN CHARLESTON, for each Month and Season of the Year 1850.

MONTHS.	Whites.	Blacks.	Both.
January	27	24	51
February	23	32	55
March	28	33	61
April	24	30	54
May	31	35	66
June	27	52	79
July	40	60	100
August	44	46	90
September	37	41	78
October	36	53	89
November	31	37	68
December	27	35	62
First quarter	78	89	167
Second "	82	117	199
Third "	121	147	268
Fourth "	94	125	219
TOTAL	375	478	853

Natives	702
Foreigners	125
From other States	29
TOTAL	856

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REPORTS FROM NORTH CAROLINA.

ARTICLE I.

ON THE TOPOGRAPHY, PREVAILING DISEASES, EPIDEMICS AND PUPLIC INSTITUTIONS IN THE CITY OF RALIEGH, N.C., AND THE SURROUNDING COUNTRY.

[Having received but two reports from this State, both of them from the hands of our esteemed friend Dr. McKee, of Raleigh, we shall insert them, and doubt not they will repay perusal—especially the one on Vital Statistics. We had hoped to get something from the State Medical Society, but have been disappointed.—Ed.]

The city of Raleigh is located in the county of Wake, near the centre of the State, and is two hundred and eighty-six miles south of Washington City, and one hundred and thirty-seven miles west of the ocean. The population of the city and environs is about four thousand five hundred; and that of the county, including the town, twenty-four thousand four hundred, with twenty-five practising physicians. Raleigh is situated on a granite ridge, which runs from north to south-west, embracing the counties of Franklin, Warren and part of Granville, on the north, and parts of Cumberland, Chatham and Moore, on the south-west. This ridge separates the cretacious from the argillaceous lands, leaving the paludal districts to the east. The soil here is a mixture of clay and sand, and is what is termed the grey lands. West, the country becomes very hilly, and the natural soil is an argillaceous loam, with a clay foundation. As to the forest growth, it is a mixture of red and white oak, black-jack, pine, dogwood, chinquepin, poplar, ash, hickory, gum and elm. In approaching Raleigh, it presents the appearance of a forest, dotted with numerous houses, and quite a picturesque view, as the large dome of the capitol, spires of the churches, and the lofty tops to some of the other buildings, are seen rising above the height of the numerous trees (from which it takes the name of the 'City of the Oaks'). The city is laid off in squares, and

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the capitol appears as if located in its centre, but is north of it, and is in the centre of a square of native oaks, of eight acres, which is enclosed with an iron railing, presenting four fronts, with the main streets running N., S., E. and W.; on each of which is a row of elm trees.

The city is supplied with water by means of public and private pumps, which is of good quality, but varies a good deal in different locations.

On the north, there is a branch, within a mile of the town, that empties into Crabtree Creek, which is three miles distant,—a beautiful and rapid stream. Six miles further on, is Neuse river, of equal rapidity, which winds its way east, so as to run within six miles of town at its nearest point. On the south, just at the extreme of the suburbs, is Rocky Branch, a stream of some two or three miles in length, and is formed entirely from a number of fine springs, the water of which is remarkably pure, and empties into Walnut Creek, which is one mile from the city. This stream is not surpassed anywhere for its freshness and never-failing current. Six miles further is Swift Creek, and four miles beyond is Middle Creek. The banks of the two latter are very shallow, the lands flat, and they overflow at all seasons when there is the least freshet. It is on these creeks that most of the fevers occur. All these streams arise in the hilly country, west, and wend their way to the east. The waters, after a heavy rain, become colored, from the washings of the hills, of a red cast, but soon become perfectly clear again. The Neuse is navigable, for four months in the year, for small steamers, as high as Smithfield, twenty-six miles from this place. On all these streams are situated mills, around or near the ponds of which more or less fever occurs every fall.

Within the last five years the type of fever has undergone quite a change. The acute bilious forms are but seldom met with, and the usual mode of treating them by the lancet and mercurialization, has given way for that of quininism. One very marked difference has been the result, and is worthy of future investigation by the profession generally; it is this—that since the abandonment, in a measure, of the lancet and mercurial treatment in the autumnal fevers, and the substitution of quinine,

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there has been much less pneumonia, pleurisy, and the other diseases incident to winter. The question, then, which presents itself for solution, is, how has this change been brought about? In answer to it, is it not reasonable to suppose that it is the result of a change in the manner of treating the fall fevers? The old mode of depleting and salivating in most of the cases of fever, so enfeebled the constitution and thinned the blood, that by the time winter set in, the patient had not recovered from his attack in the fall, which left him but little able to bear the sudden changes and vicissitudes of the weather, and the consequence was either pneumonia, pleurisy, or some one of the diseases of winter. By the substitution of quinine or some other treatment (or cause), we find that a much less number of those diseases have presented themselves within the last few winters.

Another circumstance presents itself for consideration: neuralgia and dropsy are much less frequent. If such is the experience in other parts of the country, may we not say that some general good has been the result of the change? I wish that the attention of the profession may be attracted to this subject, and some statistical information made of it.

The prevailing diseases here, for the last six years, have been intermittent, remittent, and typhoid fevers, erysipelas and cholerine, some of which would assume the livery of each other, and occasionally take on more of the congestive form than that of the inflammatory type. The treatment in the intermittent and remittent forms was usually commenced with a mercurial, either alone or combined with rhubarb. After the operation of this, several doses of quinine, from five to twenty grains, were given, according to the urgency of the case, and repeated for a day or so. After the influence of it, the patient was generally able to be up and about; but, in some instances, when first called in, the patient would be suffering with high fever, pain in the head, and sometimes irritable stomach. When the stomach would bear it, an anodyne of morphia and spirits of nitre was administered, which immediately procured relief of the pain in the head, and shortened the febrile stage. If the stomach, on the contrary, was too irritable to retain the medicine (either the anodyne or quinine), it was administered by injection with some starch, and

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acted equally as well, but required double the quantity. The typhoid forms were not so easily managed. On the plantations of Swift and Middle Creeks, this form of fever prevailed much more extensively and violently than in any other part of the county that I am aware of. Most of the cases that came under the care of the physicians, were not seen by them until they had been aggravated by domestic practice. In some instances, when called to see them, they were discharging blood from the bowels, with delirium, subsultus, and picking the bed-clothes; skin dry and rough, tongue dry, chapped, pointed, red around the edges, sometimes glazed, and at others nearly black. When there was much stupor, with stertorous breathing, we sometimes applied cups, and afterwards shaved the head and applied a blister. In every instance where the blister would draw (for in some it failed), the brain was relieved, the mind became natural, and the patient would commence to improve. The internal treatment in those cases where there was hemorrhage from the bowels, was half a grain of nitrate of silver, with a quarter of a grain of opium, once in four to six hours, with the occasional use of French brandy: in some instances, port-wine was substituted for the brandy. A blister to the abdomen in nearly all cases. Tympanitis was relieved by the injection of spirits turpentine. Alterative doses of blue mass, Dover's powder and quinine, were used with very good effect. Some few cases terminated with abscess of the parotid and about the back. During the present year, types of all the fevers are marked by typhoid tendency. Among the children, cholera infantum prevails, in a moderate degree, more or less every year, but yields to alterative doses of hydr. cum. creta and Dover's powder; but, in more obstinate cases, a combination of acetate of lead, calomel and Dover's powder, will answer a better purpose. The great thirst that follows or accompanies this form of disease, yields promptly to the free use of quinine in combination with the sulph. potass.

As to the epidemics which have prevailed throughout the country for the last six years, I can say with truth, and without fear of contradiction, that if there is any section of the United States more highly favored than another, it is this portion of North Carolina. While many portions of the country are visited

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with pestilential diseases, we neither feel nor apprehend any danger from them. I have never known an epidemic of any character to appear here, but what it was of a modified nature, and but very seldom, if ever, proved of an aggravated form. This is attributed entirely to our location, being exempt from all contact with those infectious and contagious diseases that infest seaboard towns; and, by the time they reach here, they have undergone that modifying influence by the climate, so as to destroy, in a great measure, their virulence. Another thing is, that the population is a healthy one — well fed and clothed, and provided with all the necessaries of life.

In 1845 we were visited with some cases of erysipelas, and it was called by the name of '*black tongue.*' On its first appearance, it produced quite a sensation: the name of 'black tongue' alarmed some few of the timid. Sporadic cases occurred now and then, but it can hardly be said that it prevailed as an epidemic. I am acquainted with but two instances where it proved fatal, and those were old women between fifty and seventy years of age. The worst cases, that I am aware of, occurred in the practice of Drs. William G. Hill, R. B. Haywood and myself. Dr. Hill had several cases in one family, that were attended with abscesses of the eyelids and neck, and had to be lanced. One of his cases was from a wound received with an axe, upon the knee. This case, the Doctor had some apprehensions, at one time, would prove fatal; but, by his skill and prompt attention, he succeeded in curing it.

The cases of Dr. R. B. Haywood and my own, occurred in three poor persons who were not as well provided for as they might have been, being given to intoxication. We usually paid our visits at the same hour, as his patient was in one house, and mine in another, on the same lot. Dr. Haywood's patient was a stout man, and a blacksmith by trade. He was taken with a chill, and fever soon followed; tongue coated with that peculiar yellow or brown-looking fur that indicated the common name, 'black tongue.' No eruption could be discovered upon the surface: delirium — pulse 120, quick and small. This was on the third day after the chill. Extremities cold; a clammy perspiration over the body, but yet his head was hot, and face flushed.

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Dr. H. ordered an enema of spirits turpentine; warmth and sinapisms to the extremities; carb. ammonia julep; French brandy and quinine, internally. On the next morning reäction was somewhat restored, and, on examination, a red, puffy appearance, tender to the touch, was observed on the left side of the thorax. To continue the remedies and apply warm poultices to the side until the next day, when a slight fluctuation could be felt in one spot. Dr. H. cut down to the ribs, and immediately followed a thick matter, to the amount of nearly half a pint. By continuing the poultices, quinine and rhubarb, and occasionally the brandy, he recovered in the course of another week.

The other cases were two females—one caught it by waiting on the other. One of them had it in her left arm, being ushered in with the usual symptoms; delirium soon followed, and within a few days sloughing of the flesh commenced from the bone. Fermenting poultices, wet with a solution of creosote, were applied externally, while quinine and porter, with French brandy, were freely administered, with a full anodyne at night. Under this treatment, with the addition of some rhubarb to the quinine, so as to keep the bowels open, she recovered in about three weeks. While in attendance upon the above case, the attending female contracted the disease. It commenced in her face and extended down the right arm to the hand. Several abscesses formed under the eye and along the arm, which were lanced, and discharged freely. The treatment was not so stimulating as in the other two cases, but consisted in the free use of quinine, rhubarb and porter, internally, and the application of linseed oil externally. In milder cases, the external use of a solution of sulph. ferri, and the occasional use of cold or warm applications, just which were the most agreeable to the patient, were used. The stimulating plan of treatment was found the best and safest mode of managing this disease.

In 1846 and '47, intermittent and remittent fevers prevailed throughout the whole State. These assumed a variety of forms: congestive cases were more numerous than any other. The inflammatory type was but seldom met with. On some of the streams, when it was badly managed from domestic practice, it degenerated into a typhoid form. From the great irritability of

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the mucous membrane, it was with caution that calomel could be administered at all; it would run off at the bowels, with a general prostration as the consequence. All that appeared necessary in this epidemic was to give a plenty of quinine; when called to a patient who was suffering from irritable bowels, the free use of laudanum and quinine, by injection, was followed by entire relief, and the use of quinine for several days was amply sufficient to insure a cure in all cases. The typhoid cases were nearly all protracted, but by the treatment recommended in another part of this article, they recovered in the course of from three to nine weeks.

During the present year, the spring, summer and autumnal fevers have all assumed the typhoid type. It is but seldom that we meet with a well-marked case of intermittent. They yield, in the first stages, promptly to the proper use of quinine; but if not continued for several days after convalescence, they would certainly relapse and fall into a typhoid state. When such was the case, I found a continuance of the quinine, in any doses, of no benefit, but on the other hand of a disadvantage, until after the patient had begun to convalesce, and then three-grain doses, three times a-day for at least a week, were of benefit.

The treatment which was found the most advantageous in the present form of the disease, was the use of spirits of turpentine alone, or combined sometimes with the spirits of nitre and ipecac., suspended in gum and sugar, with an anodyne at bed-time; the bowels to be regulated by enemata. This form of fever (as experience has proven), cannot be cut short like an intermittent or remittent, but must be conducted with reason and discrimination, for it will run a certain course, and I have no doubt but it is often aggravated and the cases prolonged, by attempting to do too much. In the first stages, mercury is of use, but if the pulse is over 100, it acts as a stimulant or irritant, and I have seen the tongue become dryer, skin hotter, and delirium increased, under its continuation. When such is the case, free sponging of the surface with cold or tepid water, and anodynes of morphia and nitre, followed by the emulsion of turpentine and ipecac, from five to ten drops of the former, and a fourth of a grain of the latter, if they will bear it, once in two to four

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hours, acts like a charm. If there be much diarrhœa, tympanitis, or tenderness over the abdomen, apply a blister: I have never known a case but what was aggravated by the loss of sleep at night; therefore, it is of the greatest importance to procure rest. Some cases were accompanied with profuse sweats and hot skin; those yielded to an infusion of serpentaria. If much prostrated after the sweating from the serpentaria, wine or good French brandy usually counteracted the depression, and a moderate use of these afterwards aided very much in restoring the patient. In protracted cases, it very often happens that the feet become almost useless to the patient, and it is with difficulty that they can use them in attempting to walk. One case, in particular, that I attended, after he began to recover, complained of his toes hurting him so bad, that he would walk on his heels: it hurt, he said, to let his toes touch the floor: they also gave him pain while in bed. But what is very remarkable, he could put on his boots and walk over the house without an unpleasant feeling; but as soon as he would take them off, the pain returned. Stimulating baths of warm water with mustard, and rubbing them with spirits of camphor, restored them after a few days.

In conversation with Dr. Charles E. Johnson, a few days since, he informed me that he had had a good many cases of typhoid fever during the summer and fall, and that after the symptoms were fully adopted, he found the use of turpentine of decided advantage, and far preferable to any other remedy, prepared and used in the following manner, viz.:—turpentine, ℥i.; sach. album., ℥is.; yolk of an egg, and a half pint of rich mucilage of gum arabic, were beaten together: of this, he gave a tablespoonful once in two to four hours. Under this treatment he had been very successful, with the occasional use of the aqua camphoræ, when there was much subsultus. Dr. Johnson is a gentleman of considerable experience, having practiced his profession for the last twenty years with marked skill and ability, both in the eastern part of the State, and for the last few years in this city. He is a decided advocate for the use of turpentine, and is not behind any of our southern physicians in his laudation of quinine. I feel that I am somewhat indebted to him for some of my opinions in the use of turpentine, he having urged its use

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with so much good reason in our frequent conversations upon the practice of Medicine. At all events, the settled opinion among the leading members of the profession here, is decidedly in favor of its use in the treatment of typhoid fever, either alone, or combined with ipecac. or spirits of nitre.

In the months of January and February, 1850, the weather was very rainy and cold, at which time colds seemed to prevail, amounting almost to an epidemic, and assumed the character of a frontal cephalalgia. But the peculiar feature of the coryza was the intermittent pain in the head which accompanied the attack, and in every instance that came under my observation, the pain was in the left frontal sinus, coming on daily about 10 o'clock, and lasting until nearly night. During the paroxysm, in some instances, sickness at the stomach, with intolerance to the light or noise, attended it. The tongue was slightly coated with a white fur at the commencement, but soon assumed a cream color, and if the disease was not arrested in a few days, it became dark, with red edges; pulse, rather full; thirst, at first, very considerable, but after twenty-four hours, abated; appetite bad; skin cool and bowels sluggish; face flushed, with headache; nostrils appeared to be closed; breathing through the mouth; little or no cough. When the discharge from the nose was free, the pain subsided, but on its ceasing, the symptoms returned in an aggravated form. During a paroxysm, palliatives were used, which afforded the quickest relief. From its intermittent character, much was expected from the use of quinine and morphia in the treatment, but after repeated trials with it, it had to be abandoned. Purgatives containing mercurials were indispensable; counter-irritation, with ammoniacal lotion, increased the suffering during the first stage; warm applications suited best. Chloroform was externally applied in one case, but seemed to do but very little good. After the operation of the mercurial cathartic, five-grain doses of the iodide of potass. three times a-day, anticipating the paroxysm an hour before, and giving a full dose of morphia, would in every instance control the disease in a few days; but should there be any pain or soreness about the brow, apply a blister plaster, and the cure was soon complete.

Quinine did not seem to act in these cases as was at first anticipated, but evidently aggravated the cerebral disturbance.

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The Public Institutions, etc.—There are four Female Seminaries of learning located here, with an average of some 200 pupils. Out of this number, for the last eight years, but one death has occurred; besides these, there is a Male School of some 100 boys, and the Asylum for the Deaf and Dumb, with an average of some thirty mutes. In neither of these institutions has there ever been a death. There is now in a state of forwardness, an Asylum for the Insane, which will be ready for the reception of that unfortunate class in the course of another year. Too much praise cannot be bestowed upon Miss Dix, for her philanthropic efforts in behalf of this portion of our fellow creatures. Through her indefatigable exertions, she succeeded, at the last session of the legislature in 1848 and '49, in obtaining an appropriation of eighty thousand dollars, for the erection of the above-named Asylum.

Raleigh, October, 1850.

ARTICLE II.

ON THE VITAL STATISTICS OF MIDDLE NORTH CAROLINA.

BY W. H. McKEE, M.D.

The present census will afford a fine opportunity for those who have any curiosity or propensity for statistical information, to obtain a variety of data that must lead to much practical usefulness. All subjects now taught are nearly reduced to a demonstration; and if demonstrative teaching is indispensably necessary to elucidate the subject and expand the mind, there is none more important, at least to the medical profession, than that of vital statistics. In a country like the United States, so extensive in territory, climate and variety of population, to say nothing of the different occupations, it is to be expected that the influence of society and our political institutions, does exert no small influence upon the minds of its citizens. But in such a country, with such institutions, where all are allowed to enjoy the same privileges, it is to be expected that the average of life is necessarily in its favor. Under these considerations, and with

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a desire to ascertain the rate of health as compared with other places, I have, by the politeness of the United States marshal, Col. George Little, been permitted to have access to the returns for Wake county and several others.

Wake is the largest county now in the State, both in territory and population. Raleigh, the seat of government, is located in it, and it is also considered the central county of the State. I have given the topography of it in another place. In addition to what I have here presented upon the vital statistics of Wake, I have added the population of five other counties adjoining, so as to comprise a sufficient number to be classed as *Middle North Carolina;* showing also the number of deaths per cent. All these counties are traversed by numerous small streams, and their principal rivers are the Tar, Neuse, Haw, Deep and Cape Fear. Four of them are of an argillaceous formation, with a natural growth of oak, hickory, pine, etc., and produce largely, tobacco, cotton, wheat, hay and corn. The other two are alluvial and sandy, mostly timbered with pine, and produce some cotton, a great deal of corn, turpentine and naval stores. For pure water, I know of no situation more highly favored with freestone springs and wells; some of the well water in some locations is tinctured with lime, but hardly in a single instance so much so as to prevent its use for all culinary purposes. These are advantages to be prized, and add much to the favor of this section.

As regards the climate of this section of the country, it is here proper to remark, that we are exempt from the extremes of either the heat or cold of northern winters or tropical climates, and for a better and more full understanding of the real condition of this climate, I will refer to the meteorological table kept for the University of North Carolina, at Chapel Hill, by Mr. Jas. Phillips, Professor of Mathematics and Natural Philosophy, (for which I am indebted to him). The latitude and longitude of this place (Raleigh) and Chapel Hill is nearly the same, the latter place being but twenty-eight miles west of this, and is in one of the counties embraced in the number which is classed as *Middle North Carolina.* This table also corresponds with those of the census, commencing from the 1st of June, 1849, and ending on the last of May, 1850.

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ABSTRACT OF A METEOROLOGICAL JOURNAL KEPT AT CHAPEL HILL, N.C.,

By JAMES PHILLIPS, Professor of Mathematics and Natural Philosophy, in the University of North Carolina.

Latitude 35 deg. 54 min. 21 sec. North; Longitude 79 deg. 17 min. 30 sec. West.

MONTHS.	Thermometer Detached.					Clearness, From 0 to 10.				RAINY DAYS.	CLOUDY DAYS.	CLEAR DAYS.
	SUN-RISE.	9 A.M.	3 P.M.	9 P.M.	Monthly MEAN.	SUNRISE.	9 A.M.	3 P.M.	9 P.M.			
1849.												
June - - -	69°.53	77°.36	85°.06	74°.60	76°.6416	5.3	5.6	4.2	5.3	7	29	1
July - - -	68.69	74.39	81.03	72.34	74.1129	3.0	2.8	3.6	4.8	16	31	0
August - -	68.47	76.00	83.35	73.44	75.3145	5.9	4.3	4.0	7.2	11	31	0
September -	61.70	69.60	75.63	67.17	68.5250	5.5	5.3	4.5	6.0	5	27	3
October -	50.71	59.42	65.15	55.95	57.8064	4.4	4.6	4.0	5.1	8	28	3
November -	46.67	56.73	65.03	53.97	55.6000	6.4	6.5	5.9	7.3	3	23	7
December -	36.77	42.77	50.35	40.94	42.7137	3.6	3.7	3.8	4.0	11	29	2
1850.												
January - -	39.48	44.07	52.02	44.35	45.2056	2.5	2.8	2.1	3.8	10	31	0
February -	35.00	48.21	51.48	42.54	43.0580	5.0	5.2	4.5	5.2	10	25	3
March - -	41.44	43.37	56.63	47.43	48.4677	2.5	2.7	3.7	5.1	8	30	1
April - -	48.73	55.78	61.70	54.60	55.2042	3.1	3.3	3.1	3.7	9	28	2
May - - -	56.84	64.02	72.35	62.11	63.8306	4.7	5.2	4.3	6.6	8	29	2
MEAN -	52°.00	59°.38	66°.65	57°.45	58°.8733	4.3	4.3	4.0	5.3	106	341	24

Hottest day, 23d June:

	SUNRISE.	9 A.M.	3 P.M.	9 P.M.	MEAN.
Barometer.....	29.712	29.738	29 700	29.654	29.701
Attached Thermometer,	75.	84.	96.	83.	
Detached Thermometer,	74.	85.	94.	82.	83.75

Coldest day, 5th February:

Barometer.....	30.104	30.250	30.244	30.268	30.219
Attached Thermometer,	20.	28.	39.	31.	
Detached Thermometer,	12.	26.	31.5	25.	23.625

It will be perceived that the barometrical table is not attached to the above thermometrical table, but is included in conjunction with it in reference to the hottest and coldest days, with their mean average.

On further examination, it will be seen that the yearly mean is 58.8733, and that there were 106 rainy days, 341 cloudy, and only 24 clear ones; which goes to show that the year was a very wet one, and from the past experience, the state of the weather

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was more favorable to pulmonary and dropsical diseases, which a reference to the table below will show.

The population of Wake is as follows:—first, showing the number of whites; second, that of the free negroes; third, that of the slaves. The number of white deaths with their ratio, and that of the free negroes and slaves with their deaths per cent., and the total population of the county with the aggregate per cent. Whites, 14,236; free negroes, 1,260; slaves, 9,419; deaths of whites, 113; per cent., 0.793; free negroes and slaves, 171; per cent., 1.601. Total population of the county, including all classes, 24,915; deaths per cent., 1.139. The mulattoes are included with the blacks.

The following table exhibits the number who died for the last year under ten years of age, and over ten to that of 100, as per census returns.

	Under 10.	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100
Deaths	145	19	19	18	14	16	16	20	13	4
Per centum	51.05	6.69	6.69	6.33	4.93	5.63	5.63	7.04	4.57	1.41

The diseases were classed as follows:—

Suicide	3	Cholera infantum	6	Accidents	3
Croup	12	Constipation	1	Cancer	4
Chronic diseases	18	Measles	2	Erysipelas	1
Unknown	70	Cholera morbus	1	Congestion of the lungs	1
Pneumonia and Bronchitis	14	Inflammation of the Brain	1	Scrofula	3
Old age	11	Fever	7	Inflammation of the stomach	1
Disease of the liver.	3	Putrid sore throat	1	Overlaid	3
Murdered	1	Dysentery	2	Enteritis	2
Consumption	20	Palsy	5	Scarlet fever	1
Hernia	2	Cramps	4	Influenza	1
Teething	3	Ulcers	2	Abscess	1
Typhoid fever	11	Worms	3	Intemperance	1
Apoplexy	3	Convulsions	6	Pleurisy	1
Nephritis	1	Child-bed	6	Cold	3
Dropsy	23	Burns	5		
Whooping cough	3				

This report shows over fifty per cent. of the deaths to be under ten years of age, while the list of diseases exhibits a very large per cent. of the deaths from disease of the respiratory organs.

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and dropsies appearing as the next highest in order, with the exception of those reported as unknown, and chronic. It is to be regretted that so large a number of unknown cases should have occurred, but from the large per cent. in favor of the infantile diseases it may be fairly presumed that the greater part of them were children. The only way in which accuracy in these cases is to be come at, is through a strict registration of the marriages, births and deaths.

I will now present the five other counties, with their population and per cent. of deaths, which are comprised as *Middle North Carolina.*

The white population of

Franklin is 6,206—Slaves, 5,507: Total, 11,713. Deaths, 122: Per cent., 1.041.

Orange - 11,871—Slaves, 5,255: Total, 17,126. Deaths, 133: Per cent., 0.776.

Chatham - 12,479—Slaves, 5,902: Total, 18,381. Deaths, 184: Per cent., 1.0001.

Cumberland, 13,393—Slaves, 7,217: Total, 20,610. Deaths, 234: Per cent., 1.135.

Johnston - 9,053—Slaves, 4720: Total, 13,723. Deaths, 124: Per cent., 0.900.

The total number of deaths in the above five counties is 797; the population is 81,603; per cent. of the whole, 0.976. Add that of Wake, 24,915, and we have within the six central counties a population of 106,518, and whole number of deaths, 1.081; per cent. of deaths, 1.013.

I see from an article published in the New Orleans Medical Journal, by Dr. Pendleton, of Sparta, Ga., that from the recent returns of six counties in Middle Georgia, he reports the total population of these counties to be 72,941; whole number of deaths, 1,107; per cent. of deaths, 1.51; and he further states that it is doubtless a fair indication for the whole of Middle Georgia, and will compare favorably with any other portion of the civilized world.

By consulting the above returns, it will be seen at once that the six counties in *Middle North Carolina* have a population of 27,577 more than that of the six counties of Middle Georgia,

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while the whole number of deaths in Georgia exceeds that of North Carolina by 26 per cent.*

This last exhibit of statistical data clearly shows a large per cent. in favor of *Middle North Carolina* over all other places; and while I have been prompted to submit the above statistical information, it is with no desire to detract from any other section of the country, but to aid in contributing to the limited stock of our Southern Reports upon this subject, with the hope that it may add some interest to the vital data of the South. In taking the per cent. of Middle Georgia as the most favorable, and comparing it with that of *Middle North Carolina*, I have not done so with the wish or intention to detract from the healthy character of Georgia, but to show that in *Middle North Carolina* we have health, if not more, at least equal to any section of country in the 'civilized world.' The reports made by Dr. Pendleton and myself go to prove conclusively that the long-conceived opinion that the South, during the summer months in particular, is more unhealthy than other sections of the country, is erroneous. Indeed, so far from being true, this opinion is entirely the reverse of it; and if the census returns are at all to be relied upon, they hold out the districts comprised in Middle Georgia and *Middle North Carolina* as among the healthiest regions of the world.

Raleigh, N.C., Feb. 20th, 1850.

* Dr. McKee here inserts a tabular statement from the statistics of Drs. Pendleton and Simonds, which may be found in Dr. Pendleton's report for Georgia. We omit it to avoid repetition.—Ed.

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REPORTS FROM MISSISSIPPI.

ARTICLE I.

THE DISEASES AND PHYSICAL PECULIARITIES OF THE NEGRO RACE.

BY SAMUEL A. CARTWRIGHT, M.D.

[By referring to our article on the proceedings of the Louisiana State Medical Society, it will be seen that we gave a somewhat lengthy notice of a paper read by Dr. Cartwright, on the *Diseases Peculiar to Negroes*, and expressed our regrets that the learned author had not brought forward more authorities to support his positions. We regretted our inability to publish the paper, and particularly because we had urged him to write it. Since that time, the Doctor has kindly furnished us the following short paper, giving his peculiar views in a more condensed form, and we cheerfully insert it, although out of its proper place, which would be among the reports from Louisiana. His name, however, is so completely identified with Medicine in Mississippi, that his paper will come in very well among the reports from that State. We are happy in being able to place it in connection with an interesting communication on the management of negroes, from an unprofessional friend.—ED.]

In the Report on the Diseases and Physical Peculiarities of the Negro Race, read before the Medical Association of Louisiana, and published in the 'New Orleans Medical and Surgical Journal,' of May last, I briefly enumerated some of the more striking anatomical and physiological differences separating the negro from the white man. Attention was also called to the fact, that the same medical treatment which would benefit or cure a white man, would often injure or kill a negro, because of the differences in the organic or physical characters imprinted by the hand of nature on the two races. It was not deemed necessary, in that brief paper, to refer to authorities to prove the facts enumerated, which are just as well known and established in that branch of Medicine embracing comparative anatomy and physiology, as the size and motion of the planets in astronomy. The report was not drawn up to meet objections coming from

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those persons who had never made comparative anatomy and physiology a special study. But as they have made objections to it, and are inclined to look upon the facts it sets forth as a farrago of nonsense, or at least as very questionable assertions, needing proof, the object of this paper is to give them the proof. This trouble might have been spared, if the comparative anatomy and physiology of the different races of mankind had not been strangely neglected in the course of instruction in the medical schools of the present day. In Europe, where there is but one race of mankind to treat, comparative anatomy and physiology are of no great practical importance: nevertheless, these branches have been extensively cultivated, particularly in Germany and France, by the greatest men that have ever adorned the medical profession. In this country, comparative anatomy has been very much neglected, and comparative physiology and therapeutics more so. Our Northern States, like Europe, contain but one race of men, (except a few worthless free negroes) and all the medical instruction of the books and schools in that region is confined to that one race. But here, in the South, we have two distinct races of people living in juxta-position, in nearly equal numbers, differing widely in their anatomy and physiology, and consequently requiring a corresponding difference in their medical treatment. Yet, when it was asserted in the report that the Queen of England's medical advisers, without a knowledge of the physical differences between the Ethiopian and Caucasian, would not be qualified to prescribe for a negro, great exceptions were taken to the remark by those who are aware that different temperaments, as the sanguine and phlegmatic, require important modifications in medical treatment, but were not aware that Cuvier, Ebel, Sœmmering, Malpighi, Pechlin, Meckel, Albinus, Stubner, Virey, Blumenbach, and many other illustrious men, have long ago demonstrated, by dissections, so great a difference in the organization of the negro from that of the white man, as to induce the majority of naturalists to refer him to a different species, having a different origin. So great is the difference in the medical treatment demanded by the peculiar organization, physiology and habits of our black population, that very learned physicians from Europe and the Northern States, on first coming

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South, have felt and acknowledged their incompetency to treat their diseases successfully until they have had time to make themselves acquainted with their peculiarities. The owners of slaves consider it safer, in most cases, to trust to the empiricism of overseers, rather than to the regular doctors who are new-comers, practising on the false abolition theory that the negro is only a lampblacked white man. There is nothing to prevent young physicians, new-comers to the South, from treating negroes successfully, if they were to study their diseases, their anatomy, physiology and pathology, with half the care they devote to the white paupers in the Northern and European hospitals and almshouses. On coming South, they find no such class of persons as those whom they have mostly studied, to treat. They not only find no complaints arising from want of food, fire, clothing, and the common comforts of life, such as they have been accustomed to see in the hospitals, but they find one-half the population composed of a people whose anatomy and physiology is a sealed book to them. Although the every-day experience of the Southern people proves that nature has made so great a difference between the white and black races as to make it absolutely necessary, for the safety of the State and well-being of Society, that the latter should be subjected to different laws and institutions from the former, yet the text-books of the Northern medical schools contain not a syllable to show what that difference is, but advise the same rules and principles, and the same therapeutic agents, as if there was no other race of mankind than that inhabiting the Northern States.

The popular error prevalent at the North, that the negro is a white man, but, by some accident of climate or locality, painted black, requiring nothing but liberty and equality—social and political — to wash him white, is permitted to go uncorrected by the Northern medical schools. This error can be and should be corrected at the dissecting table, by reviving comparative anatomy, and making it an essential part of a medical education. If the Northern schools will not correct it, the Southern schools, instead of being, as they now are, Northern institutions located in the South, using the same text-books, and echoing the same doctrines, should take upon themselves its correction, and have

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their own text-books, containing not only the anatomy, physiology and therapeutics applicable to the white race of people, but the anatomy, physiology and therapeutics of the black race, also. As soon as they do this, the empire of medical learning will come South, where the study of two races of people will give students better opportunities of acquiring knowledge than the one race at the North. Physicians will also reclaim the practice, among three millions of people, that the overseers have mostly got. It will be to the interest of the planters to employ physicians instead of overseers to treat the diseases of their negroes, as soon as they properly qualify themselves for this branch of Southern practice. I have never known, in all my experience, a Southern country physician want practice who was properly qualified to treat the diseases of negroes. It is only those medcal men whose knowledge is confined to the diseases, the anatomy and physiology of only one race of men, as contained in the Northern hornbooks in Medicine, who are superseded by overseers and empirical practitioners.

So little attention has been paid to the anatomy and physiology of the negro race, that when it was mentioned among other peculiarities of the negro, that his blood was blacker than the white man's, it was supposed by those physicians who have paid no attention to comparative anatomy and physiology, that I was making random assertions, requiring proof, instead of reiterating truths that have been known for centuries, needing no other proof than the perusal of works of the highest authority in Medicine.

Thus, Malpighi, the celebrated anatomist, of *rete mucosum* memory, says:—'La couleur noire reside non seulement dans le fluide qui colore le tissu muqueux, mais encore *le sang*, le part corticale du cerveau et plusieurs autres partes internes du corps impregnées d'une teinte noire, et ce qui a été remarqué également par d'autres observateurs.'

Here is not only the authority of Malpighi in proof of the darker color of the negro's blood, and the impregnation of the brain, membranes, and other internal parts of the body, with a darker hue, but likewise his testimony that other observers had remarked the same thing.

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J. F. Meckel (see vol. xiii., p. 69, Mem. Acad. Berlin) says, that not only the blood, but the bile and cortical part of the brain are of a darker color in the negro than the white man. According to his authority, the negro is not only a negro on the skin, but under the skin. The words of that great comparative anatomist are:—'*Le nègre n'est donc pas seulement nègre à l'exterieure, mais dans toutes ses partes et jusque dans les plus profondement situées.*'

Nich. Pechlin, in a work entitled '*De cute Æthiopum,*' and Albinus, ('*Diss. de sede et causa coloris Æthiop.*') have remarked, that not only the blood, but the muscles of the negro are of a darker red than the white man. These authors also state that the membranes, tendons and aponeuroses, so brilliantly white in the Caucasian race, have a livid cloudiness in the African.

J. J. Virey, one of the authors of the great Dictionary of Medical Sciences, Paris, says, in the thirty-fifth volume, page 388, that the negro's flesh differs in color from the white man's, as the flesh of the hare differs from the rabbit. This author confirms every thing said in the report about the darker color of the blood, membranes, smaller size of the brain, and larger size of the nerves in the negro than the white man.

The celebrated anatomists, Sœmmering and Ebel, also speak of the darker color of the blood, muscles, etc. These anatomists confirm every word in the report about the brain being smaller, and the nerves larger, in the black, than in the white race.

MM. Cuvier, Gall and Spurzheim, also found the capacity of the brain about a ninth less in the negro than in the European.

Samuel George Morton (see '*Observations on the size of the Brain in Various Races and Families of Man,*' Philadelphia, 1849) has ascertained that the negro's brain is nine cubic inches less than the white man's.

Lately, some attempts have been made by British abolitionists to distort the facts of science, by representing the African brain as equal to that of the European, and the mind of the former equal to the latter. A certain Dr. Robert Bently Todd, of King's College, London, in a work on the '*Anatomy of the Brain, Spinal Cord and Ganglions,*' (London, 1845,) endeavors to throw some doubt and uncertainty on the received and well-

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established facts in regard to the inferiority of the negro's intellect, the comparative smallness of his brain, and the larger size of his nerves. Also, James Cowles Pritchard, another British writer, author of the 'Researches on the Physical History of Mankind,' in four volumes, (London, 1844,) an abolition work, disguised under the pretence that the authority of the Bible would be impeached if the great differences that natural historians and comparative anatomists professed to have discovered in mankind, were not called in question. Pritchard, in the preface of his work, admits that the weight of authority in the learned world is altogether against his conclusions. His conclusions, not flowing from the premises, prove that scientific truth was not the object of his work; that it was not written for learned men, but to cast dust into the eyes of the vulgar, to prevent them from seeing the truth on the slavery question. He pretends to be very fearful that the learned anatomists and naturalists, unless held in check, will bring the scriptures into disrepute. He does not seem to be aware of what Cardinal Wiseman justly observes, that 'it is only half-way science and half-way truths that militate against the authority of the Bible.' The whole truth, when brought out, and perfect freedom of science to pursue its investigations untrammelled to its terminus, have, in every instance, demonstrated the truth of the Bible, while imperfect investigations and the omission of the truth, or the tying science down to the narrow interpretations of biblical commentators, have generally led to skepticism and infidelity. Pritchard seems to be so much afraid that if the differences which Malpighi, Sœmmering, Cuvier and other comparative anatomists have discovered in the negro's organization, approximating him to the monkey tribes, be admitted, the Bible will be invalidated, that he has taken much pains to try to overturn general truths and principles by partial exceptions. He adduces instances to prove that white persons have turned black, in whole or in part, and that the negro's skin has, in some instances, turned white. But he ought to know that the change of color in all such cases is the effect of disease. Dr. Rush was so much afraid that the black skin, thick lips and flat nose of the negro would invalidate the Mosaic account of the creation of

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man, and the unity of the human family, that he published, in the Medical Repository, (vol. iv., p. 409) some suggestions, attributing the black color, thick lips and flat nose, to a disease resembling leprosy. But observation proved that, so far from the black color being caused by disease, the blackest negroes were always the healthiest, and the thicker the lips and the flatter the nose, the sounder the constitution. Both Pritchard and Todd labor to prove by a few cases, exceptions to the general rule, that the brain of the negro and his mental capacity are equal to the white man, lest the scriptures be invalidated, if any inferior slave race be admitted. They overlooked the fact that the Mosaic history distinctly specifies an inferior slave race of people, called Canaanites, Gibeonites, etc., and that these people were reduced to slavery, and their country taken from them, by Divine command. In aiming to overthrow Cuvier's specific traits of the negro's organization, Pritchard did not seem to be aware that Cuvier and Moses agree exactly in their definitions —both defining the negro as the '*knee-bender.*' (See Cuvier's Mem. du Museum d'Histoire Nat., tome iii., p. 159—where the anatomical structure of the negro's knees is brought forward, by the greatest naturalist the world ever saw, as a specific difference between him and the white man, and also the inferiority of intellect, from the diminished quantity of brain). Exactly the same things are set forth in the inspired writings, by the name given to the Canaanite, or Ethiopian, race—the Hebrew verb, *Canah*, from which the word Canaan is derived, literally meaning *knee-bender—crushed or broken in mind;*—tantamount to Cuvier's race of man with weak and timid mind, and *les genoux à demi-flechis.* Hence it would appear that the Bible does not stand in need of Todd, Pritchard, and other British abolitionists to support its truth by special pleading, or by dodging the truths of science.

Both Todd and Pritchard are compelled to admit that the negro's blood is darker than the white man's; but they deny that the brain is of a darker color, as Meckel, Pechlin, Albinus, Malpighi, and many other comparative anatomists have asserted. They quote three dissections made by Sœmmering, where the difference in color was not apparent, but rather unnaturally

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white. They concealed the fact, or did not know it, that disease tends to obliterate the dark color that pervades the negro's organization, giving the deeper-seated parts an unnatural whiteness. Thus, as the report sets forth, in negro consumption, the mucous membranes, instead of being dark, are paler and whiter than in the Caucasian race. It would be very unfair to adduce those cases of whiteness of the gums and mucous surfaces in diseased or consumptive negroes, to disprove the fact of darkness being the general rule.

Todd and Pritchard labor much to call in question the facts, heretofore observed by comparative anatomists, that the nerves leading from the brain are larger, in proportion, than in the white man. Yet they are forced to admit that the negro's sense of smell and hearing is more acute. The auditory and olfactory nerves must, therefore, be larger, or the physiological law of nervous development being proportional to activity of function must be denied. Those, likewise, who deny that the nerves of the stomach are no larger in the negro than the white man, are compelled to admit that his digestive and assimulating powers are stronger, which is the same thing as to admit that the nerves of organic life are larger.

Everything asserted in the report in regard to the negro's eye, and his bearing sunlight without a covering on his head, will be fully confirmed by reference to Sam. Thom. Sœmmering's work, entitled '*Icones Oculi Humani*,' where it is distinctly stated that the *plica lunaris* in the inner canthus of the negro's eye is anatomically constructed like that of the ourang-outang, and not like that of the white man.

Virey confirms every word said in the report about the small size of infant negroes' heads, and the sutures being closed. (See Dict. des Science Med., vol. xxxv., p. 401).

In regard to the bones of the negro being harder, whiter, and containing more phosphate of lime than those of the white man, naturalists universally agree. Herodotus mentions the greater hardness of the Ethiopian skulls; proving, in that respect, at least, that the negro is the same now that he was two thousand years ago.

The *Crania Ægyptiaca* prove, as Morton justly observes, and

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has placed on the title-page of his catalogue of skulls, that 'the physical or organic characters which distinguish the several races of men, are as old as the earliest records of our species.'

A radical reformation is greatly needed in our system of medical education, which is so defective as to lead to the fatal error in practice, that there are no physical or organic characters in the negro's organization different from that of the white man. A blundering practice in ignorance of the negro's anatomy and physiology is not the only evil of this defective system of education. The peculiar phenomena indicating debasement of mind, springing from this difference in organization, are attributed by the *profanum vulgus* of the North to the effects of the Southern slavery. But it could easily be shown, by anatomy, physiology and ethnographical investigations, that the debasement of mind supposed to arise from Southern slavery, arises from causes imprinted by the hand of Nature on the sons of Ham, so far back as the time when the catacombs of Egypt were constructed. The vulgar error that there is no difference in the negro's organization, physiology and psycology, and that all the apparent difference arises from Southern slavery, is the cause of all of those political agitations which are threatening to dissolve our Union. The knowledge to correct this most mischievous error, which has already split nearly every protestant denomination of Christians in the United States, is to be found by cultivating comparative anatomy, physiology, history and ethnography.

June 20th, 1851.

ARTICLE II.

ON THE HYGIENE OF COTTON PLANTATIONS AND THE MANAGEMENT OF NEGRO SLAVES.

By THOMAS AFFLECK, Esq., of Washington, Miss.

[The following interesting communication, from an unprofessional gentleman of fine talents and extensive experience, was kindly furnished us in reply to some interrogatories we addressed to him last winter. Mr. Affleck is one of the most scientific agriculturists to be found in the Southern States, and is well known in this region as the author of the *Southern Rural Almanac*, a work abounding in useful

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information relative to *planting*, *gardening*, *botany*, *soils*, *climate*, *etc.* At present, we believe, his attention is devoted particularly to *Horticulture*, but he has been an extensive planter for a number of years. His efforts to introduce more system and order in the management of plantation affairs, by means of the 'Plantation Record,' a blank book which he has admirably arranged for the purpose, are worthy of all praise. Nothing can be better calculated than the faithful keeping of such a record, to add a charm to that homely primeval employment, (tilling the ground,) which is by far the most *important pursuit* in this great and growing republic. This paper, in connection with that of Dr. Cartwright, is but the beginning of a series, to appear from year to year, which, we trust, will promote the true interest of the master, and ameliorate the condition of the slave. We commend Mr. Affleck's paper to the careful perusal of our readers, both North and South.—ED.]

Dr. E. D. FENNER, *Editor Medical Reports:*

My dear Sir:—In reply to your inquiries relative to the health and management of negroes, and the sanitary condition of cotton plantations, I would remark, that my observations have been confined, more particularly, to the hill country embraced in this and the counties immediately adjoining; that they extend through a series of over nine years; and that my replies will be limited to the condition of things in the district referred to.

The face of the country is much broken; not, as is generally the case in hill regions, divided into valley and hill; but is sharply rolling, the tops of the hills representing the general surface, as it were—the hollows being depressions, forming a very peculiar character of country. Some few creeks and streams of water occur, but even their valleys are of limited extent.

The soil was, originally, very rich; but where the timber has been destroyed and the land tilled, the soil has been, in a great measure, washed off; accumulating in the hollows; raising the level of the creek bottoms; and adding to the formation at the Balize.

The general growth of timber in this country was originally oak in some eight or ten of the noblest species, elm, hickory-poplar, (*Liriodendron tulipifera,*) mulberry, magnolia, (*M. grandiflora, accuminata, cordata, and macrophylla*), ash, linden, black

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walnut, sweet and black gums, sassafras, etc. In the low grounds, cypress, sycamore, etc. In some parts of the country there are scattering pines, occasionally running into pine-woods. In others the beach, and again the magnolia preponderates, intermingled with the holly and wild peach.

In some parts of the county springs of the most limpid water abound; forming *spring branches*, as they are termed; and emptying their waters, principally into St. Catherine's and Second creeks. These springs break out of beds of fine silicious sand or gravel, and occasionally from the beds of *marl*, which abound in many parts of the county.

The country having been long settled, the land is very much exhausted; not a few plantations on the verge of abandonment for the rich lands of the Louisiana swamps, where more cotton may be made, though with less clear profit in the end, and with a vast amount of suffering and toil to white and black. The number of negroes in the county has greatly diminished, I suspect, during the last ten years, from the removal of numbers to other districts.

With these preliminary remarks, I will proceed to reply to your inquiries in detail.

1st. 'What is the customary method of feeding, clothing, housing and working negroes?'

Their *food* is cooked for them by one appointed for the purpose, and directly responsible to the master or overseer. They have as much well-cooked food as they can consume; the general allowance of meat being 3½ to 4 pounds per week, of sound mess pork, or its equivalent in bacon, to each working hand over, say, 10 years; with bread, homminy, vegetables, etc., *ad libitum*. Some few, to their shame be it said, do not feed so well; but they form the exception, and are themselves greatly the losers thereby. Fish and molasses are given occasionally. Not nearly enough of vegetables are grown and fed to negroes. Each negro has his small tin bucket, with a cover, in which each meal is sent out by an old man and cart; breakfast at 7 to 8 o'clock, dinner at 1 to 2, and supper when they drop work. The buckets are washed after each meal. Water is either hauled out

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in a barrel on a sled, or got from springs, etc., and is carried about amongst the hands at work as wanted, by youngsters.

Clothing consists of, for winter, a roundabout or loose coat, a pair of trowsers of strong woolen jeans, and two shirts of stout lowells, for the men; and for the women, a frock of warm linsey, and two chemises of lowells; our winter being short, their last year's suit is seldom nearly worn out; and youngsters who are very hard on their clothes get additional trowsers, etc., when necessary. One pair of strong russet brogans, and a hat or cap of some kind. One year, a warm capote of twilled blanket; and the next a bed-blanket for every negro, even to the infants. Some make comforts* for their people occasionally. The children, too, have comfortable clothing.

Housing is almost always good. Each family has a room from sixteen to twenty feet square, many with an additional shed-room, and all with galleries and porches. The houses are of brick, frame or log, some of pisé. Frame or log, generally, considered most conducive to health. Each house has its yard, with poultry houses, etc., and some with gardens.

The *working* is quite uniform. At day-break the bell rings or horn blows, and all hands turn out; the mothers carrying their children to the nursery, and all proceeding to their work, so as to commence by sun-up. During the winter, from half to three quarters of an hour is allowed for each meal; during summer, half an hour for breakfast, and from one and a half to two hours for dinner. All hands quit at dusk. Some planters do not drop soon enough, nor arrange their work with that system, to admit of their hands being ready for bed at a sufficiently early hour; but they form the exception.

2d. 'What are the principal diseases from which negroes suffer in your region? and which are the sickliest seasons of the year?'

During *winter*, principally *pneumonia*, occurring in wet and cold weather, and greatly aggravated by the unskilful treatment of overseers; warded off by dry, well-aired houses, warm and sufficient clothing and food, and an avoidance of exposure to

* A quilted coverlid.

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wet, which the negro cannot be exposed to with impunity. In *spring*, few diseases; none, if dry; if wet, apt to be sickly—pneumonia, and intermittent fever; rarely subject to those bilious attacks to which the whites are liable at this season. *Summer* usually very healthy; some bilious fevers in June; but when fodder-pulling begins, negroes become sickly, being decidedly the most injurious work to their health that is done upon plantation, from their exposure to heavy dews, over-heating amidst the tall corn, and when reaching the end of the row, drinking large quantities of water. In the *fall*, violent congestive fevers are occasionally produced during cotton-picking, when cold nights set in, accompanied by hot days. This is greatly lessened by the practice, now generally adopted, of requiring them to change their wet clothes for dry, so soon as the dew passes off. When the cotton-leaves fall, sickness lessens. Upon the whole, I have never seen an equally healthy region, for white or black; and my observation has been somewhat extensive. *Cold and wet winters* the most dangerous sickly seasons; diseases of no kind prevailing during dry seasons, or warm and dry summers.

The *principal causes of sickness* upon plantations, are the use of spring, well, creek or bayou water,—(it is a *fixed fact*, that cistern or rain water alone is healthy; instances being quite common, where places notoriously sickly, though supplied with abundance of pure, clear and cool spring water, becoming at once equally healthy from the exclusive use of that from underground cisterns: there should be large cisterns, not only at the house and quarter, but at the gin-house and weather-shed in the fields)—night work and night rambles, coon hunting, etc. There is nothing gained by fagging the hands with corn-shelling, carrying seed cotton into the gin, etc., after night. They should drop all work in time to have a couple of hours before the bell rings for bed, and for seven to eight hours of uninterrupted sleep; and should have Saturday afternoon, whenever work is not unusually pressing, for washing, house-cleaning, tending their crops, etc., the overseer making it his business to see that they are so employed. Badly-cooked food, wherever permitted, an insufficiency of vegetables, and a want of cleanliness, are all causes of sickness. Much injury is frequently occasioned by

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the hands carrying their baskets full of cotton, during picking, for any great distance, on their heads. A load of 100 to 150 pounds pressing upon the skull, neck and back-bone, when the muscles are relaxed by fatigue, cannot but be injurious, and *is* a decided cause of sickness and accidents, such as sprains, ruptures, etc. In every instance, additional care in food, clothing, and household comforts; a ready supply of fuel in cold weather; an avoidance of exposure to rain and night air and dews; strict discipline; reasonable hours and moderate punishments, are followed by a corresponding degree of health and strength, and increase in the numbers of negroes.

3. 'Are the whites and blacks equally liable to the customary prevailing diseases?'

Negroes have diseases peculiar to themselves; and even in the same diseases, the symptoms, etc., are different, and the treatment must also be very different. I think them equally liable, under the same circumstances of food, exposure, etc.

4. 'What influence does acclimation appear to have upon negroes brought from the more northern States?'

The first year, no marked influence; the second summer, extremely liable to dangerous attacks; after that, the acclimation seems to be complete.

5. 'What is the comparative duration of life among whites and blacks, creoles and immigrants?'

Cannot well say; the *negro* outlives the white or the mulatto. I am inclined to think that, after acclimation, the more active out-of-door habits of the white immigrant, is conducive to health and duration of life.

6. 'What seem to be the principal causes of disease among negroes, in respect to food, clothing, exposure, filth, water, drink, etc.?'

Already answered, in a great measure.

7. 'Are negro women, under the ordinary régime of plantations, as prolific as white?'

Yes: more so, when not over-worked. As a general thing, decidedly so.

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8. 'What is the ordinary management of negro children? and what the comparative mortality between whites and blacks?'

Upon every plantation working, say, twenty hands or more, there is a nursery, with a careful old woman, whose business it is to take care of them, wash them, cook for them, etc. Every mother carries her cradle, blankets, mosquito-bar and child to the nursery, before she goes out in the morning, after suckling. Whilst under nine months, the aim is to have the child suckled every three and a half to four hours, the mother coming in for the purpose; and this rule is rarely exceeded. Where the distance is great, say over three or four hundred yards, good managers have a large, dry, airy shed in the field where the hands are at work, and there the children, cradles and all, are taken by the nurse, in a cart, or otherwise, so soon as the dew is off—an excellent practice. The mortality of negro children is as two to one when compared with the whites, depending solely upon locality and care. Quarters are often badly located; children allowed to be filthy; are suckled hurriedly, whilst the mother is over-heated; are laid on their backs when mere infants, on a hard mattrass, or a blanket only, and rocked and bumped in badly-made cradles; not a few are over-laid by the wearied mother, who sleeps so dead a sleep as not to be aware of the injury to her infant; a vast proportion die under nine or ten days, from the most unskilful management of negro midwives, who do not know how to take care of the navel, and dose the infant with nasty nostrums from the moment of its birth; from having access to green fruit, eating acorns, etc., and from dirt eating. Of those born, one half die under one year; of the other half, say one-tenth die under five years; and of the remainder, a large proportion are raised. Dirt-eating is frequent amongst young negroes, and always kills them, if not cured. The constant use of molasses is said to induce it, but I cannot say how correctly. Those under the best care are liable to it. Seems to be occasioned by a morbid state of the stomach, and should be so treated. One dirt-eater upon a plantation, will infect the whole. Mostly infected at from two to ten years, Say one child in forty eats dirt. Children should have no sweet milk; none but sour, or buttermilk. They are very liable to

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worms, which kill a good many, or stunt them: cured by giving every child a spoonful or two of a strong, sweetened decoction or tea of the root of the China tree (*melia azedcrach*), every other morning, till five or six doses are taken.

9. 'What is the customary medical attention devoted to sick negroes; and what care extended to the disabled and worthless?'

As a general thing, there is not sufficient good medical attention on plantations. Too much is left to the overseer, who doses after a routine — an emetic followed by calomel and oil. There are exceptions, of course. The disabled and worthless slaves are better cared for than the same class in any other community on earth.

10. 'What seems to be the state of feeling between master and slaves in good families and well-governed plantations?'

Invariably good, upon *well-governed* plantations. I am not aware of a difficulty of any kind having occurred in this county, since I have resided in it, between the negro and his master or master's family. Occasionally difficulties *do* occur between the negroes and their overseer: almost invariably the fault of the master, in trusting too much to the overseer, and too lax discipline.

In bringing these hurried replies to a close, I must remark, that it would require an octavo volume of large size to contain anything like full answers to your questions. I have done the best I could with the leisure at my command.

It is extremely difficult to arrive at correct sanitary and statistical results, anywhere in the South, from the want of correctly-kept plantation records. Planters are not by any means fully advised of the importance of such records; nor are they sufficiently stringent in requiring them to be kept by their overseers, on those plantations on which they do not themselves reside; nor in keeping them regularly and correctly where they do not require it of the overseer. A uniform system of plantation records would direct the attention of the community to the most prevalent evils, and to the best practices, alike; so that the one would be avoided, and the other generally adopted.

Yours, very truly,

THOMAS AFFLECK.

WASHINGTON, ADAMS CO., MISS., 19th *May*, 1851.

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ARTICLE III.

ON THE DENGUE OF WOODVILLE, MISS.

By A. C. HOLT, M.D. (In a letter to the Editor.)*

Dr. FENNER:

Dear sir:—I have just received your note, in which you request me to give you all the information I can relative to the epidemic which prevailed in Woodville last fall. I comply at once, and cheerfully, with the request.

The first cases of the fever, named variously, *Dengue*, *Breakbone*, etc., occurred here about the *first of September* last. The cases gradually increased in number till the *first of October*, at which time there were very few in the village, white or black, who were not either in bed, or just recovering from it. The whole number of cases has been estimated to be between six and seven hundred. All ages seemed alike liable, the very young as well as old; I saw an infant of two weeks with a well-marked attack. There were no deaths. The duration of the attack was generally from four to six days; in many, the fever subsided on the second and third days — but in all these, relapses occurred upon their leaving bed earlier than the sixth or seventh day.

The precursors of an attack were those usually attendant upon ordinary influenza, patients often expressing themselves as feeling like 'they were taking cold;' then a distinct chill, followed by a high grade of febrile excitement, accompanied with

* From this short but interesting communication, from a highly respectable practitioner, it would seem that the dengue was better marked by *eruption* in Woodville than it was in New Orleans. This is the village in the interior of the country that was so severely scourged by yellow fever in 1844. The dengue appears to have behaved pretty much like the yellow fever, being confined to the precincts of the village, and not spreading among the neighboring plantations, although many persons contracted it by going into town, and then returning to the country. Although Dr. Kilpatrick contended that the yellow fever of that year was imported from Galveston or New Orleans in the person of a Methodist preacher, Dr. Stone, the other historian of that epidemic, thought differently; and the idea of contagion had but very few adherents. In the case of dengue, *contagion* is not even mentioned by Dr. Holt. He seems to have been forcibly struck with the affinity between dengue and yellow fever. As stated in our report on the fevers of this city, we cannot see why there might not occur an epidemic of *extraordinary mild yellow fever*, as well as of scarlatina, or any other fever.—ED.

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agonizing pain in the head, eyeballs, back and extremities, and oftentimes a stricture across the chest. The eyes, in a majority of cases, presented a streaked appearance, (yellow and red;) the tongue broad and moist, but heavily coated; thirst slight, and except in the advanced stages, often altogether absent, and the bowels generally evinced a tendency to constipation. During the first days of the attack, the restlessness was a most distressing feature of the disease; and throughout, the mind, whether the patient were asleep or awake, seemed in a dreaming condition, —confused thoughts and painful visions being constantly present. An eruption, similar to that of measles, made its appearance in many instances, while in a few cases the eruption was that of nettle-rash. The fever had no tendency to remission—one paroxysm, with no return, except from too great haste on the part of the patient to leave the sick room.

The debility following an attack was excessive; and I could not see much difference in this respect, whether the attack was mild or severe. It is proper here to state the interesting, and, to those who have once suffered with this disease, the very agreeable fact, that in the fall of 1848, there occurred in Woodville some fifteen or twenty cases of dengue, and that but one of these was attacked last fall. These were more exposed, too, than any other citizens of the village, from the fact that they were the only individuals who escaped in their respective families, and consequently suffered greatly from loss of rest and fatigue in nursing.

All who visited Woodville from the surrounding country, during the prevalence of the disease, were taken sick, soon after their return home. The county, during the summer and fall, was generally very healthy, notwithstanding there had been a greater amount of rain than usual during the summer, with oppressive heat, followed by a remarkably dry fall.

The treatment pursued in the epidemic was very simple; from ten to twenty grains of blue mass, or calomel, followed in six or eight hours by a dose of castor oil, was all the medicine used in a majority of cases. Hot mustard foot-baths, and hot teas were freely used, and cups to the head and back. In many cases it was necessary to repeat the castor oil, on the third or fourth day, after the failure of enemata.

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In a few of the first cases I administered quinine freely, but abandoned it with the impression that it was a waste to give it. As soon as the fever subsided, porter was ordered, and in nearly every case produced the most happy results, by composing the wandering and confusion of intellect, so distressing to the patient, and restoring the strength more rapidly than any other agent.

You ask me to state, whether I noted any similitude between this and the epidemic which prevailed here in 1844?

The greatest difference perceptible to me, was in the results, the epidemic yellow fever of 1844 being very fatal, while in this last, as I have before remarked, no deaths occurred.

From my limited observation, I am led to conclude yellow fever and dengue to be children of the same parent, with probably some difference in their nurture.

You ask, 'Do you believe you had any *new* and *specific* epidemic? or was your fever only one of the protean forms of endemic malarious fever?'

I hardly know how to answer this question with satisfaction to myself, without extending this letter further than my crude cogitations on this subject would justify. I will say briefly, that while perchance all fevers in our climate may be traced to some general cause, I see no good reason why some particular aids to that great cause may not, at certain times, result in the production of a fever specific in its character; and such, in my opinion, is the case in yellow fever, dengue, and perhaps also with the endemic typhoid fever, which occasionally visits us.

I have not a little faith in the cause of fever, as set forth by a certain learned professor, who replied, when interrogated on the subject, that 'all fevers were produced by a concatenation of circumstances.'

Wishing you all the success your laudable undertaking merits,

I am, very respectfully,

A. C. HOLT.

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REPORTS FROM ARKANSAS.

ARTICLE I.

ON THE MEDICAL TOPOGRAPHY AND DISEASES OF FORT GIBSON, ARKANSAS.

Compiled, with permission, from records in the office of the Surgeon-General,

By RICHARD H. COOLIDGE, Assistant Surgeon U.S.A.

FORT GIBSON is situated on the east bank of the Neosho or Grand river, in the Cherokee Nation, west of Arkansas, latitude 35° 48′ 10″ north; longitude 95° 3′ 15″ west, and about 425 miles north of the Gulf of Mexico, measuring from a point near the mouth of the Sabine river.'

The fort stands upon a plain 550 feet above the level of the sea, and about twenty feet above ordinary low-water mark in the Neosho. This plain extends back from the river about 350 yards, where it terminates in a ridge, the commencement of a high rolling prairie, which spreads in an easterly direction to the Menard mountain, distant about three and a half miles. On the north it is terminated immediately at the fort, by the high prairie above alluded to, which here attains an elevation of over 100 feet, and reaches to the bank of the river. On the south and south-east, this plain is continuous with the 'river bottom,' of which it is in fact a portion, which extends south to the confluence of the Neosho with the Arkansas river, two and a half miles, and thence south-east for five miles, following the Arkansas to the Bayou Menard, a small stream at the base of the Menard mountain. This bottom land has a river margin of about eight miles, and an average breadth of three miles, the whole of which, except in the immediate vicinity of the fort, is covered with a dense growth of forest trees and cane, and has within its borders several lakes and lagoons. The whole, not excepting the site of the fort, is subject to overflow, and during the intense heat of summer the lagoons are mostly dried up.

To the south-west lies a similar 'bottom,' triangular in shape, bounded on the east by the Neosho, on the south by the Arkansas, and on the west by the Verdegris, a river which empties into

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the Arkansas, one-half mile above the mouth of the Neosho. The width of this 'bottom,' measuring from the Neosho to the Verdegris, varies from a half to three miles, while its average extent in a line north from the Arkansas is about two miles.

The climate of Fort Gibson is variable; the summers are intensely hot, and the winters, though sometimes mild and pleasant, are occasionally severe, the rivers being frozen so that loaded wagons cross in safety.

The following table exhibits the results of the thermometrical observations at this post for two periods, one of eleven years, during which three observations were taken daily, and one of four years, when four daily observations were made. The results for the first period are obtained from a table calculated by Assistant-Surgeon Van Buren, and published by authority of the Surgeon-General in 1844; those for the second period are now published for the first time. It will be observed that the results obtained for the two first periods are nearly similar, except in the 'extreme range' and in the 'maximum' and 'minimum' temperatures.

TABLE OF MEAN TEMPERATURES,

FROM OBSERVATIONS MADE BY OFFICERS OF THE MEDICAL STAFF,

AT FORT GIBSON, ARK.

PERIOD of Observation.	Mean ANNUAL Temp.	AVERAGE Mean Temperature OF THE WINTER	SPRING.	SUMMER	AUTUMN	AVERAGE Mean Temperature OF THE COLDEST MONTH. Mean.	Month.	WARMEST MONTH. Mean.	Month	Average Maximum	Minimum	Range
11 years ..	61 .07	42 .50	61 .26	79 .17	61 .53	36 .26	Jan'ry	81 .60	July..	103	3	100
4 years ..	61 .20	43 .29	61 .61	78 .12	62 .06	41 .75	Dec'er	80 .54	July..	95 .50	10	85 .50

	Maximum.	Minimum.	Extreme Range.
11 years	116	7	123
4 years	102	6	96

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The prevailing winds during the summer months are from the S. E. and S. S. E., blowing, in some months, twenty-eight out of thirty days from one of those points. These winds traverse the extensive 'bottom' above described, before reaching the fort. Occasionally the wind changes to the south-west, blowing over the bottom land lying between the Neosho and Verdegris rivers; and this change is always followed by increased sickness among the infantry, whose barracks are more exposed to this wind than to that from the south-east; while the contrary obtains with the dragoon command, whose quarters, located on the prairie ridge bordering the great bottom, are more exposed to the miasm wafted by the prevailing wind. As a general rule, the fevers in this command are more severe than those occurring in the infantry, whose barracks being on the immediate bank of the river, are protected in some measure from the prevailing winds by the elevated prairie ridge.

The soil is a sandy alluvion, resting upon a substratum of limestone. The water is strongly impregnated with lime.

From this brief and imperfect sketch of the medical topography of this post, the reader will be prepared to find that the majority of the diseases are of malarial origin, and that fevers of an intermittent and remittent type chiefly engage the attention of the medical officer. Before, however, entering upon a detailed account of these diseases, or of the treatment adopted for their cure, we will here present abstracts exhibiting a condensed view of the principal diseases occurring at the post for a period of twenty years. Each abstract embraces a period of ten years;—the first, from January 1st, 1829, to December 31st, 1838; the second, from January 1st, 1839, to December 31st, 1848. The first of these abstracts has already been published by the Surgeon-General, (*vide* Medical Statistics U. S. Army, Ed. 1840) and is only presented here for the purpose of comparison with the second abstract, which has not heretofore been published.

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No. I.

ABSTRACT, exhibiting a CONDENSED VIEW of the PRINCIPAL DISEASES at FORT GIBSON, for a period of TEN YEARS.

FIRST QUARTER.	YEARS.										
	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838	
Mean strength	174	272	229	373	482	484	472	653	282	557	3878
Intermittent fever	14	19	20	36	29	36	111	177	17	140	399
Remittent fever	1	..	1	9	12	3	8	11	..	2	47
Synochal fever	2	..	..	..	..	..	8	..	..	1	11
Typhus fever	..	..	..	..	.	..	..	2	..	..	2
Diseases of respiratory organs	23	42	30	74	73	54	252	121	38	88	795
" digestive organs	2	35	24	34	14	30	55	63	32	65	354
" brain and nervous system,	..	1	..	..	..	..	2	3	3	18	27
Dropsies	..	..	..	..	..	..	5	..	1	..	6
Rheumatic affections	2	13	12	8	10	15	13	43	8	15	139
Venereal affections	10	6	1	3	1	4	2	2	16	13	58
Ulcers and abscesses	6	13	4	10	4	4	25	35	10	15	126
Wounds and injuries	22	50	27	56	46	44	19	94	25	66	449
Ebriety	8	22	9	16	..	20	9	15	12	2	113
All other diseases	4	29	28	39	70	37	20	119	5	67	427
TOTAL	94	230	156	285	259	247	538	685	167	492	3153
SECOND QUARTER.											
Mean strength	205	260	220	434	429	324	505	305	443	699	3824
Intermittent fever	11	31	38	52	20	52	109	81	99	311	804
Remittent fever	..	5	6	1	10	20	17	10	..	1	70
Synochal fever	..	..	..	1	..	..	..	..	..	1	2
Typhus fever	—	—	—	—	—	—	—	—	—	—	—
Diseases of respiratory organs	25	9	47	74	29	19	38	30	9	52	332
" digestive organs	19	21	64	79	68	134	145	97	105	149	881
" brain and nervous system,	1	3	..	1	1	4	..	4	4	5	23
Dropsies	2	1	1	1	1	..	4	..	..	..	10
Rheumatic affections	2	4	..	2	2	14	21	24	6	21	96
Venereal affections	3	7	..	..	..	1	4	4	6	18	43
Ulcers and abscesses	5	3	1	20	5	7	10	18	13	21	103
Wounds and injuries	18	64	45	72	25	33	38	34	33	59	421
Ebriety	10	30	24	52	39	12	3	13	15	13	211
All other diseases	20	50	39	17	68	46	55	19	25	84	423
TOTAL	116	228	265	372	268	342	414	331	315	735	3119

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No. I.

ABSTRACT OF THE PRINCIPAL DISEASES OF FORT GIBSON, ETC.—*continued.*

THIRD QUARTER.	YEARS.										
	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838	
Mean strength	258	253	242	447	439	491	409	135	728	645	
Intermittent fever	29	23	133	104	135	110	497	54	536	369	1990
Remitteut fever	6	136	18	36	79	151	128	35	59	23	671
Synochal fever	..	21	28	..	..	..	2	..	38	..	89
Typhus fever	..	..	..	..	..	..	..	..	2	..	2
Diseases of respiratory organs	5	..	15	10	22	13	26	7	18	10	126
" digestive organs	11	27	50	168	352	84	73	16	240	247	1268
" brain and nervous system,	..	..	..	5	1	10	2	1	7	1	27
Dropsies	2	1	..	5	7	..	1	..	10	1	27
Rheumatic affections	2	7	14	13	3	3	8	..	11	17	78
Venereal affections	1	2	1	2	1	1	..	..	27	15	50
Ulcers and abscesses	1	2	3	17	4	7	20	8	31	73	166
Wounds and injuries	7	40	36	106	20	20	30	9	38	84	390
Ebriety	..	18	12	94	9	11	..	3	17	30	194
All other diseases	105	24	31	230	119	23	41	7	55	115	750
TOTAL	169	301	341	790	752	433	828	140	1089	985	5828

FOURTH QUARTER.											
Mean strength	265	245	254	691	512	504	559	126	654	597	4407
Intermittent fever	54	93	63	34	150	195	255	47	305	297	1493
Remittent fever	7	5	..	34	41	29	29	16	54	13	228
Synochal fever	..	..	16	..	..	7	..	..	23	..	46
Typhus fever	..	..	..	..	..	..	1	..	..	..	1
Diseases of respiratory organs	39	5	42	74	9	39	26	3	49	53	339
" digestive organs	15	22	56	52	36	196	114	6	140	115	752
" brain and nervous system,	1	..	..	3	..	..	5	1	9	3	22
Dropsies	1	..	..	..	..	5	..	1	3	3	13
Rheumatic affections	4	5	11	4	10	15	7	..	16	13	85
Venereal affections	10	1	1	3	..	..	..	1	23	15	54
Ulcers and abscesses	23	1	6	25	9	14	28	9	11	22	148
Wounds and injuries	23	24	69	72	26	22	63	10	44	48	401
Ebriety	15	27	39	72	13	6	9	2	2	15	200
All other diseases	11	27	17	33	16	39	60	8	23	61	295
TOTAL	213	210	320	406	310	567	597	104	702	658	4087

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No. II.

ABSTRACT OF THE PRINCIPAL DISEASES OF FORT GIBSON, ETC.—*continued.*

FIRST QUARTER.	YEARS.										
	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	
Mean strength	574	759	560	158	397	363	245	168	146	174	3544
Intermittent fever	18	117	158	27	48	154	67	40	35	21	685
Remittent fever	..	8	6	1	..	..	..	..	..	1	16
Continued fever	..	..	..	..	2	..	..	..	..	4	6
Typhoid fever	00	00	00	00	00	00	00	00	00	00	00
Eruptive fever	..	2	..	..	1	..	..	..	..	..	3
Diseases of respiratory organs	47	78	32	15	55	25	13	15	21	6	307
" digestive organs	31	39	25	10	29	23	6	8	10	4	185
" brain and nervous system,	4	20	18	1	8	8	..	..	3	2	64
" serous exhalent vessels	..	4	..	..	..	1	..	..	..	..	5
" fibrous and muscular tissues,	13	26	10	3	8	2	..	3	4	3	72
" urinary and genital organs,	14	9	12	7	5	18	8	3	7	13	96
Abscesses and ulcers	11	25	21	7	15	9	10	7	7	5	117
Wounds and injuries	25	57	26	10	22	39	15	17	21	11	243
All other diseases	73	39	48	12	26	51	10	25	15	7	306
Total	236	424	356	93	219	330	129	118	123	77	2105
SECOND QUARTER.											
Mean strength	751	558	644	381	397	361	211	260	187	173	3923
Intermittent fever	41	129	104	32	61	181	119	88	30	35	820
Remittent fever	3	2	8	3	3	1	..	..	..	4	24
Continued fever	1	..	22	..	..	..	..	..	..	9	32
Typhoid fever	00	00	00	00	00	00	00	00	00	00	00
Eruptive fever	..	1	..	..	1	..	..	..	..	..	2
Diseases of respiratory organs	27	38	18	5	28	6	5	9	8	2	146
" digestive organs	121	70	83	35	64	104	20	28	28	15	568
" brain and nervous system,	9	19	16	1	9	5	3	3	11	1	77
" serous exhalent vessels	..	1	..	..	..	..	..	..	..	..	1
" fibrous and muscular tissues,	12	12	17	4	8	5	..	1	5	..	64
" urinary and genital organs,	5	18	16	4	5	19	4	8	12	5	96
Abscesses and ulcers	4	26	10	2	14	10	4	17	18	..	105
Wounds and injuries	11	36	30	11	30	46	15	29	45	9	262
All other diseases	114	74	100	16	30	38	27	27	17	24	467
Total	348	426	424	113	253	415	197	210	174	104	2664

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No. II.

ABSTRACT OF THE PRINCIPAL DISEASES OF FORT GIBSON, ETC.—*continued.*

THIRD QUARTER.	YEARS.										
	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	
Mean strength	623	526	507	253	339	328	188	118	176	71	3129
Intermittent fever	269	293	130	62	305	260	194	61	67	26	1667
Remittent fever	6	29	87	35	18	48	29	2	20	2	276
Continued fever	..	10	9	1	..	..	..	..	..	5	25
Typhoid fever	..	1	..	..	..	..	..	..	..	..	1
Eruptive fever	..	..	..	..	..	..	..	1	..	..	1
Diseases of respiratory organs	14	11	7	23	16	4	2	1	2	1	81
" digestive organs	104	53	76	35	50	19	9	21	38	14	419
" brain and nervous system	18	18	9	1	24	4	5	..	2	1	82
" serous exhalent vessels	..	..	..	..	..	..	..	..	1	..	1
" fibrous and muscular tissues,	9	17	6	15	2	..	1	..	..	2	52
" urinary and genital organs	3	3	21	6	12	16	10	6	5	7	89
Abscesses and ulcers	24	13	18	10	16	11	5	5	17	1	120
Wounds and injuries	23	26	36	22	29	33	6	9	27	4	215
All other diseases	171	77	108	23	55	34	30	12	17	21	548
TOTAL	641	551	507	233	528	429	291	118	196	84	3578
FOURTH QUARTER,											
Mean strength	470	512	143	346	349	252	155	109	182	120	2638
Intermittent fever	236	163	22	80	254	201	180	82	59	16	1293
Remittent fever	1	5	1	17	1	5	1	..	4	5	40
Continued fever	..	1	..	1	..	..	..	..	..	..	2
Typhoid fever	00	00	00	00	00	00	00	00	00	00	00
Eruptive fever	9	..	..	..	..	..	..	..	..	..	9
Diseases of respiratory organs	15	36	11	28	29	14	9	6	19	6	173
" digestive organs	88	67	18	46	34	9	20	2	17	13	314
" brain and nervous system	5	18	1	11	7	5	1	3	1	1	53
" serous exhalent vessels	..	1	..	..	..	..	..	..	..	1	2
" fibrous and muscular tissues,	18	20	2	10	..	1	1	2	6	5	65
" urinary and genital organs,	3	13	8	3	7	15	9	3	6	13	80
Abscesses and ulcers	9	17	1	4	9	8	4	8	13	3	76
Wounds and injuries	37	40	7	22	45	16	14	7	17	10	215
All other diseases	51	45	10	24	26	22	18	10	14	15	235
TOTAL	472	426	81	246	412	296	257	123	156	88	2557

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Confining our comparison of the two abstracts to the class of fevers of malarial origin, it will be observed, that from 1829 to 1838, which will here be designated as the first decennial period, the aggregate strength of the command was 4,064; and that there occurred 4,886 cases of intermittent, and 1,016 cases of remittent fever. Of the former five, and of the latter forty-four were fatal.

In the second decennial period, extending from 1839 to 1848, the aggregate strength of the command was 3,308; and during this period 4,466 cases of intermittent, and 356 cases of remittent fever were reported. Eight cases of each type proved fatal.

The annual average of intermittent fever for the first decennial period is 120 per cent.; for the second, 135 per cent. Of remittent fever, the average for the first period is 25 per cent.; and for the second, $10\frac{7}{10}$ per cent. The deaths from fevers of *all kinds* for the first ten years, were 57; and for the second ten years, 18 — all of which occurred within the first four years of this period. In the first decennial period, 26 deaths were from phthisis pulmonalis; and in the second, 10 died with that disease.

The total number of deaths from 1829 to 1838, inclusive, is 277; the annual mortality being 6 5 per cent. Excluding the deaths from epidemic cholera, (18) homicide, suicide and submersion, the annual ratio of mortality is reduced to $4\frac{5}{10}$ per cent. (*Vide* Op. Cit. Sup.)

In the period embraced in the second abstract, there were 90 deaths, being an annual mortality of $2\frac{3}{10}$ per cent.

The practice of treating diseases of malarial origin, and particularly remittent and intermittent fevers, with large doses of quinine, administered not only in the remission and intermission, but in the height of the fever, was introduced at Fort Gibson, in the summer of 1843, by Assistant-Surgeon Charles McCormick, who, in common with many officers of the medical staff, had previously adopted this treatment in Florida.

It is found that from July 1st, 1843, to June 30th, 1847, a period of four years, during which the hospital was successively in charge of Surgeon Randall, Assistant-Surgeon McCormick, and myself, there were 2,252 cases of intermittent reported. Of

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these 1,645 were quotidian, 588 tertian, and 19 quartan. Of remittent fever, 105 cases are reported. All these fevers were treated with large doses of quinine, and upon what has been appropriately termed the 'abortive method.' No case terminated unfavorably.

The total number of deaths during this period is 13: of these 2 were from delirium tremens; 3 coup de soleil; 1 cerebritis; 2 phthisis pulmonalis; 1 hæmathorax; 1 pneumonia; 1 icterus; 1 dysentery, and 1 enteritis.

The aggregate mean strength of the command being 944, and the deaths 13, the annual ratio of mortality is $1\frac{3}{10}$ per cent.—which is $5\frac{3}{10}$ per cent. less than the annual ratio for the first decennial period, and 4 per cent. less than for the first four years of the second decennial period.

The annual average of intermittent fever for the four years under consideration, is found to be 238 per cent.—being 118 per cent. higher than the ratio for the first decennial period. The reverse of this, however, obtains with regard to remittent fevers, the average for the four years being 11 per cent., while for the first ten years it is 25 per cent.

In connection with this unusually large ratio of intermittent fevers, it is proper to state that in January, 1843, the Neosho rose thirty-five feet, overflowing the extensive bottom lands in the vicinity of the fort; and in May and June, 1844, the whole of these lands were again submerged. The river overflowed its banks so suddenly, that large numbers of cattle were overtaken in the canebrakes by the water, and drowned. The lower floors of some of the public buildings were covered with water, and it became necessary to remove the Commissary and other stores. The extensive gardens of the post, then in full cultivation, were ruined. When the waters subsided, which was not till the lapse of several weeks, so great was the amount of putrifying animal and vegetable matter, that travelers passing in steamers on the Arkansas were compelled to enter their rooms and close the doors. According to the testimony of Cherokee and Creek Indians residing near this post, the summers 1843 and '44 were the most sickly ever known, if we except that of 1834, in which year the ratio of mortality at the post was 21 per cent.!

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The fevers occurring among the troops during the summer months are quotidian and remittent. Of the former, very many would become remittent under any other than the 'abortive' treatment. That this is not mere conjecture, is shown by the statistics presented in this paper, and further by the fact that during the months of September and October the fevers in the surrounding country are almost universally of a severe bilious remittent type.

So much has been written within the last eight years of the efficacy of the quinine treatment in fever, that it seems a work of supererogation to add to the mass of facts in support of its propriety and success, which have been presented to the profession. A treatise on the diseases of a locality would, however, be so manifestly incomplete without some account of the treatment proper to be adopted for their cure, that the following remarks are deemed necessary.

In the treatment of ordinary intermittents, it was not considered necessary to give the quinine during the paroxysm. In the quotidian, the fever coming on in the morning and subsiding towards evening, it was the practice to prescribe ten grains of the sulphate of quinine at bed-time, the dose to be repeated the following morning, about five hours before the expected return of the paroxysm. In a majority of these cases, no preparatory treatment was necessary, unless perhaps a single purgative dose of calomel and rhubarb, to cleanse the *primæ viæ*, and excite the functions of the liver. The general condition of the patient, and particularly of the organs connected with the digestive system, was always examined, and upon the discovery of any functional derangement, or visceral disease, the proper remedies were administered.

Numerous carefully conducted experiments proved that the above method of using quinine was the most economical and efficacious mode of treating the intermittents at Fort Gibson. As a general rule, twenty grains thus given prevented a recurrence of the paroxysm, which would not be effected with less than thirty grains given in small doses repeated every hour.

The remittents, in some seasons, frequently required the lancet; and it was generally necessary to act upon the liver and

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intestinal canal either with an emetic and cathartic, or with the latter alone. Frequently, however, patients have been admitted with high fever, intense headache, full, frequent pulse, dry and intensely hot skin, to whom, in preference to bleeding, (though to all appearance absolutely required,) a full sedative dose of quinine, say fifteen or twenty grains, was given without any preparatory treatment. The effect has uniformly been to lessen, in a remarkable manner, the force and frequency of the pulse, alleviate or entirely remove the headache, and bathe the body in profuse perspiration. The same effects would be produced by venesection, affusion of cold water, diaphoretics, etc., but the fever thus temporarily allayed would return, perhaps, with increased violence, and, with alternate remissions and exacerbations, continue for weeks, perhaps become typhoid, and prove ultimately fatal; while, with the sedative quinine treatment, there is produced so full and perfect a remission of the febrile symptoms, that if the remedy is repeated at intervals of four or six hours for two, or at most three periods, the disease vanishes, and the patient, instead of feeling as if he had been sick, is able to resume the laborious duties of a soldier by the third or fourth day from the attack.

That the above is no mere fancy of the writer, could be demonstrated from the official records, did time and space permit. It may, however, be briefly stated, that in the summer of 1844 the supply of quinine was exhausted, a quantity intended for the post having been lost by the sinking of a boat in the Arkansas. Every method of treating intermittents and remittents was tried, nevertheless the number of beds in the hospital had to be doubled; many of the fevers assumed a typhoid type, and several would have proved fatal but for the employment of quinine, a small quantity of which, obtained from a private source, was reserved for the most severe cases. In a short time after a full supply of quinine had been received, the extra beds were no longer required, the occupants having returned to duty.

It was ascertained, from a record of some hundred cases, that intermittents were liable to return at intervals of seven, fourteen, twenty-one and twenty-eight days. The period of recurrence having been ascertained, the patient was required to take twenty

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grains of quinine in two doses, one twelve, and the other six hours before the expected paroxysm.* In every case, unaccompanied with organic disease, this treatment was successful, effecting a permanent cure.

In fevers occurring in pregnant women, the quinine was given more freely than in ordinary cases, it being deemed important to prevent a return of the paroxysm, in order to prevent abortion or miscarriage, a result never caused by the use of quinine.

It is not, however, only in the fevers at this post, that this remedy is useful. It is equally necessary to the successful treatment of dysentery, cholera infantum and pneumonia. It is not pretended that quinine will cure any [all?] of the above diseases, or that, in places free from malarial influences, it is necessary; it is recommended, because all persons residing at Fort Gibson (and the same must obtain in places similiarly situated) must receive the poison malaria, which usually exhibits itself in the series of symptoms we call intermittent and remittent fever; sometimes, however, from peculiar idiosyncrasy, or unusual vigor of constitution, its presence remains unknown and unnoticed, till from some accidental cause there is a departure from health, then this poison exercises a powerful influence over whatever disease exists, and no disease accompanied with fever can be satisfactorily treated at this post, unless the practitioner recognizes the existence of this poison, and applies its antidote.

The most fatal disease occurring in the vicinity of Fort Gibson, and also in the State of Arkansas, is that called in the language of the country, 'winter fever.' The principal mortality among the Cherokee and Creek Indians is from this disease. It usually attacks persons enfeebled by climate and malarial influences, who live in open-houses, are poorly clothed, and above all, intemperate. No case has occurred, to my knowledge, among the regular troops. The disease is sometimes rapidly fatal, being ushered in with a chill, during which the brain or lungs, or both, become fatally congested, the patient never rallying. In less severe cases there is usually a chill, followed by fever, complicated with pneumonia, which is not unfrequently double. The disease has a strong tendency to become typhoid, and if treated as an ordinary pneumonia is generally fatal. The following ex-

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tract from my official report for the third quarter, 1845, briefly states my views of the nature and treatment of this disease.

'The disease called "winter fever" is in fact a pneumonia. The attendant fever appears to be continued, and not to differ from the symptomatic fever attending pneumonitis at the north, but if closely watched, slight remissions may be observed, even in the severest cases. There appears to be an "essential fever," with local inflammation. In such cases, my observation teaches me that you may bleed, cup, give mercurial cathartics, and use the tartrate of antimony freely, and still the disease will gain ground. I have closely watched several cases, and notwithstanding the employment of remedies which, in ordinary pneumonias, would have been successful, I have found the disease steadily advancing both in extent and degree. In this condition, with extensive inflammation of both lungs, I have given the sulphate of quinine in ten and twenty-grain doses, with the happy effect of *removing almost entirely the attendant fever* in less than twenty-four hours, and checking, or at least enabling remedies, before inefficacious, to check the progress of the disease.'

In a subsequent report, (March, 1847,) the following remarks occur:—

'I have had an excellent opportunity this quarter of treating this disease, ('winter fever') in a severe form, among the Arkansas volunteers, and the success of my treatment has corroborated the views expressed in my report for December, 1845.'

'The treatment adopted was moderate bleeding, cupping, and external irritants; a mercurial cathartic followed by the nitrous powder of the United States Dispensatory, frequently repeated, and quinine given in sufficient doses to check the fever, which it always did.'

'The disease had a typhoid tendency, which prevented large bleeding, and rendered the use of serpentaria, senega and wine necessary in the latter stages.'

'Sixteen cases were treated during this quarter, two of which were fatal; of these, one was apoplectic when first seen; the insensibility was never removed, the patient dying in sixty hours; the other was complicated with meningitis, and was under treatment only thirty-six hours.'

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REPORTS FROM TEXAS.

ARTICLE I.

ON THE CLIMATE, ETC., OF A PORTION OF TEXAS.

BY ASHBEL SMITH, Esq.

[For this interesting letter we are greatly indebted to the distinguished author, who seems ever ready to maintain the honor of his State, in whatever way he may be called on. Knowing the large number of intelligent physicians in the young and growing State of Texas, we had expected something more than a brief general communication from a retired practitioner. However, we are duly thankful for this, and hope it will serve to stimulate others who are still 'in harness,' to record their observations.—ED.]

Dr. FENNER, *Editor Medical Reports:*

My dear Sir:—The information I shall be able to give you on matters Hygienic and Medical, in Texas, is very meagre. I do not practice Medicine further than occasionally to attend cases, such as are forced upon every gentleman who has been once in the harness of our profession; I feel, however, as lively an interest in its practice, philosophy and improvement, as did the old tallow-chandler, who stipulated in the sale of his chandlery for permission to be present on trying days. I hope your correspondents who are in brisk practice will not leave Texas to be represented in the 'Southern Reports' by the medical officers—eminently competent I admit—of the United States army, who are stationed on our frontier.

Texas has been generally very healthy during the last twelve months. I believe this is true of the entire State, but my information is more definite in relation to the districts west of the Trinity river. I shall advert to some exceptions to this general healthfulness, after having made one or two observations. Texas, you are aware, is a prairie country. On its north-eastern border there is a large proportion of wooded land, interspersed with prairies; as you proceed westward from the Sabine through the Gulf district to the Rio Grande, the proportion of timbered land

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to prairie gradually diminishes until, at the San Antonio river, and thence to the Rio Grande, the country presents one broad prairie, with rare and narrow skirts of low trees. The common opinion is, and I think it in the main well founded, that the healthfulness of Texas increases pretty regularly as you proceed from the east to the west. Perhaps this is owing to the face of the country becoming, as you thus proceed, more and more open, and thus occasioning less obstruction to the Gulf winds, which blow with unfailing regularity during the warm season. These winds do not fail, for they are caused by the heat of the surface of the earth at the time being; they blow nearly at right angles to the Gulf coast; they are strongest at the time of greatest solar heat—from 1 to 3 P. M.; they greatly diminish the sensible heat of the atmosphere, and dissipate miasmata, or whatever are the causes of intermittents and remittents. Without insisting on the soundness of this opinion as to the cause, or rather one cause of the healthfulness of Texas, of one fact I am confident, after fourteen years' residence in Texas, and extensive acquaintance with the States of North Carolina and Tennessee, and those lying south of them, that there is no planting district bordering the Mississippi, if we except the 'coast' so called, or east of that river, that can vie in healthfulness with Texas. Climatic diseases are comparatively infrequent, of a mild character, yield promptly to curative means, with speedy restoration to full vigor of health. I remember very well in North Carolina, that after a summer or autumnal fever, the invalid commonly did not become strong and really well until the setting in of decided cold weather. I have spoken of our climatic fevers yielding promptly to curative means—they are intermittents and remittents, being of the class usually enough called bilious; I have, since I commenced practice, read pretty regularly the reports of bilious fevers originating in a southern clime, treated in the New York and Philadelphia hospitals, with the careful autopsies appended to them. I hope it is not unprofessional to say that the mortality has ever appeared to me extraordinary, and that any of our old field country doctors would lose his practice, if not more successful than the reports of cases alluded to.

Since I commenced practice in Texas, thirteen or fourteen

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years ago, a great change has been wrought in the character of our febrile diseases. They are still, as then, intermittent or remittent in their type; but at the period mentioned, and for some five years after, every fever ran readily, or rather rushed into intense, overwhelming congestion — the congestion masking and overriding all other symptoms, being itself the symptom and the disease, if I may so speak. This *intense* congestion is now rarely met with; I have not seen a genuine old-fashioned case, even incidentally, for nearly three years. The increased comforts of living in Texas are too important to be forgotten in searching for causes of this modification; but as for efficient causes, I know nothing better than to take refuge in the old 'constitutional state of the air' having changed. In reference to this marked modification of febrile disease, from frequency of congestion to its nearly utter disappearance in an *intense* degree, I will add that saline purgatives, and especially Epsom salts, were formerly proscribed as almost fatal; but during the last year it is almost the only medicine I have used as a purgative and refrigerant in fevers, and as the sole curative agent in diarrhœas, in the practice incidentally imposed on me on my plantation or in the neighborhood. Diarrhœas were pretty frequent during the hot season, of a mild character; they commonly yielded *at once* to a teaspoonful of Epsom salts dissolved in water, with moderate care in diet and exposure. In the fevers I saw, the same remedy was very efficacious in abating the febrile excitement, and producing bilious evacuations. I seldom had occasion to resort to calomel, to 'rouse the liver.' Epsom salts, in our diseases, should be given in divided doses. In all cases after the abatement of fever, quinine is necessary to prevent its recurrence; in other forms of disease among us, the curative powers of quinine are hardly less than in fever: the consumption of it in Texas is considerable; yet so atrocious are its adulterations, that I do not believe, of all that is sold, one-eighth part is of genuine pure sulphate of quinine. I saw a German emigrant slowly dying of an intermittent of months' duration, (when two doses of good quinine would have cured him, as the result proved,) taking a villainous compound of mannite and I know not what else, with scarcely quinine enough in the mixture to 'bitter it,' as George III. said about 'horse

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aloes.' Could lynch-law ever be justifiable, the adulterators of medicines would be the most meritorious candidates for its offices.

Galveston and Houston were respectively visited in 1839, 1843 and 1847, with epidemic yellow fever; both places have remained wholly exempt since the last date. I was in New York in 1848, at the time when yellow fever prevailed at the Quarantine ground near that city. I saw upwards of twenty cases in the hospital and its neighborhood; the latter were among permanent residents of the island. The disease then presented an unmistakeable identity with the same disease as I had seen it in our part of the world. I made several autopsies: black vomit in the stomach, hemorrhages elsewhere, and the milk-and-coffee liver of Louis, were prominent appearances in all. According to my observation, I should say the disease suffered as little modification by difference of climate as does the small-pox.

During the past twelve months the cholera has visited Texas, but for the most part mildly; a few cases in Galveston and Houston; a 'smart sprinkling' in one district on the Brazos; and some cases, I know not to what extent, in the westernmost sections of the State. The cases occurring in Galveston were, as intimated, few in number, and traceable directly to New Orleans, or they occurred almost exclusively in such as had direct personal intercourse with fatal cases coming from New Orleans, or with the 'old plunder' and clothes of such fatal cases. After very great personal observation of cholera in London, Paris, New York, Memphis, etc., I was a decided non-contagionist and indeed still am; but facts that have occurred in Galveston and also on the Brazos, seemingly well verified, are of a nature to lead me, if further extensively confirmed, to modify that opinion somewhat. I leave the matter in the hands of those who have ampler opportunities than I for a decision, after briefly stating a few facts which I consider well authenticated, respecting the cases which appeared in Galveston, and on the Brazos; but for occupying your time unprofitably, I could give you the facts much more in detail. Different cases arrived in Galveston from New Orleans, which proved fatal. In different instances, persons who waited closely on these cases, and who washed the clothes that had been worn by them, sickened and died. The disease did not spread further.

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In the latter part of last May, I heard that cholera had broken out with much severity on General Coffee's plantation, on the Brazos. I repaired thither as an amateur. When I arrived, I found nine deaths had occurred. There was at that moment a complete lull of the epidemic. It subsequently reäppeared on the same plantation, and numerous cases occurred on other plantations in the vicinity. General Coffee brought from the Mississippi river, through New Orleans, to Texas, in the spring of 1849, a large force of negroes;—he reached the Brazos in July. These negroes remained in good health until May, 1850. At this time, Mr. L., son-in-law of General C., brought another large gang of negroes to the same plantation, and housed them, with their luggage and 'plunder,' with General C.'s negroes. The second gang, or Mr. L.'s, were brought from the Mississippi river, through New Orleans and Galveston. Cases of cholera occurred among this gang on their way down the Mississippi river, on their voyage across the Gulf, and on their route from Galveston to the plantation. Three of these cases proved fatal. They arrived at General C.'s plantation on the 9th May; on the 15th following, the disease broke out among the old gang—hitherto healthy. When I was there about a fortnight afterwards, about thirty-seven cases had occurred, with nine deaths.

As no new cases had occurred for the preceding few days, it was hoped that the visitation had passed; and I remained but a short time. The disease had thus far been confined to General Coffee's plantation. It subsequently prevailed to a greater or less extent on different plantations in the neighborhood. Without further details, the following facts may be regarded as ascertained: There was no cholera at the time of the arrival of Mr. L.'s gang; cases, some of them fatal, had been occurring among these some weeks previously to within two or three days of their arrival; six days afterwards, fatal cases occurred among the previously healthy force of General Coffee.

During the past winter, there have been not a few cases of severe pneumonia, which proved fatal to several quite old persons. It was often complicated with hepatic or cerebral disease, giving rise to the form of pneumonia which I used to hear called 'bilious pleurisy,' and 'head pleurisy.' I was called, per force,

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to attend some cases on the San Jacinto: some were of extreme severity; they all recovered under the use of the lancet in moderation, with tartarized antimony.

I must not omit to state that I have seen within the year several cases of 'Dry-Bellyache,' or 'Patent Gripes,' or whatever other *classical* name shall be bestowed on this disease. I am not yet a full convert to your *lead* doctrine of its origin, though my cases rather lead to that conclusion. The first case is of a healthy yellow woman, some twenty-five years old. She had repeated attacks, with partial cure, when I saw her. She was then very feeble and emaciated, and her case was regarded as quite critical. Cupping afforded her immediate and very great relief. Her progress to cure was steady and pretty speedy under the use of calomel and morphine, till slight salivation was produced. Paralysis of one leg ensued. This has slowly recovered its use, without other medication than her usual good living. Her master had the same disease very severely. He recovered promptly and permanently by bleeding, cupping, and calomel and morphine pushed to slight salivation. I said, here there can be no suspicion of *lead;* but was thereon informed that their cistern had been painted white inside, (with white lead) so that the water might not taste of the wood of which it is made. They discontinued the use of the water thereafter.

Another case I saw on the steamer Ogden, then being repaired on the ways in my neighborhood. The Ogden was in the course of a thorough painting. The patient was a negro. His case yielded readily to venesection, cupping, calomel and opium. Other cases occurred which I did not see. Several cases, with relapses, have occurred in the principal hotel of Galveston. This hotel is supplied with very clear, nice water, to say nothing of the liquors of its bar. The water is caught from roofs, one of which, quite large, is *tinned.*

We have, so far as I am aware, no medical organization in our State; nor is there much prospect of any change. Each member of the faculty is a separate independancy, and sometimes adopts a sort of armed neutrality system.

No meteorological tables are kept that I am aware of, so I must trust to my occasional memoranda. In Texas, the spring

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of 1850 was very backward, with heavy rains. The summer and autumn were very dry, with an unusual prevalence of northerly and north-easterly breezes. Intense cold occurred about the middle of December, killing orange and large fig trees, down to the root, and destroying large quantities of seed-cane which had been placed in mats. When the mats were properly made, the cane escaped uninjured; but in general, the planters trusted too much to the usual mildness of a Texas winter. One morning the thermometer stood, at sunrise, at 14° Fahrenheit, on the border of Galveston Bay.

If the above memoranda shall, in a small degree, aid you in making up your report on Texas for the next volume of your very valuable work, the Southern Medical Reports, the expectations of your friend will be fully answered.

Truly yours,

ASHBEL SMITH.

EVERGREEN, GALVESTON BAY, *March*, 1851.

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REPORTS FROM CALIFORNIA.

ARTICLE I.

ON THE TOPOGRAPHY, CLIMATE AND DISEASES OF CALIFORNIA.

By THOMAS M. LOGAN, M.D., of Sacramento City. (In letters to the Editor.)

We have received three interesting letters, on the above topics, from our able and highly-esteemed correspondent, Dr. Logan, late of this city; the two first of which we deemed so important to the medical profession in the older States, that we did not hesitate to publish them in advance of our volume. They may be found in the March number, 1851, of the 'New Orleans Medical and Surgical Journal.' We regret our inability, for want of space, to present the whole series in this volume; situated as we are, we can only give the two last letters entire, with a synopsis of the first. We trust we shall be excused, in this instance, for transcending the geographical limits prescribed for our Work, as every thing relative to the topography, climate and diseases of the most extraordinary country that has been brought into notice since the discovery of America must be interesting to the medical inquirer. Dr. Logan is a man of talents and superior attainments, and we sincerely hope he may fully realize the high expectations that induced him to leave a comfortable position in New Orleans, for the golden region of the West. We commend the perusal of his letters to all who have any desire to settle in California.

[LETTER I.]

Climate, Prevalent Diseases, State of the Medical Profession, Introduction of Cholera, etc.

Dr. Logan commences this letter with an interesting case of *lead-poisoning*, the nature of which, he does us the honor to say, was revealed to him by seeing a notice of our report on Epidemic Colic, in our first volume. After arriving at a correct diagnosis, he found no difficulty in effecting a cure. He gives a deplorable account of the medical profession in the land of gold, and says that, like many articles of merchandise with which the country has been flooded, it is at 'a ruinous discount,' on account

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of the immense influx of physicians, far beyond the wants of society; a great many were compelled to resort to the most menial employments to gain a living, such as 'driving ox-teams, laboring in the streets, serving at bar-rooms, monte tables, boarding houses, and digging among the rocks to gather their share of California's produce, the precious gold.' Many of the most unworthy men, calling themselves physicians, had gone out to that distant region, and were guilty of such rapacity upon the unfortunate victims who fell into their hands, as to create a distrust on the part of the community toward the entire profession.

Dr. Logan gives a specimen of the *fee-bill* adopted by the Medical Society of San Francisco, which displays the most exorbitant charges probably ever exacted in any country; varying from *thirty-two dollars* for a single visit, up to *one thousand dollars* for the operation for cataract, or trephining. Surely nothing but a community of nabobs inhabiting a region of gold could support such charges; and how strange to think, that whilst one portion of the profession is obtaining such prices for their services, another, perhaps, not less competent, are to be seen working on the streets for a living.

In this letter, Dr. Logan gives a rather gloomy account of the climate of California, but it will be seen in his last, that his opinion became somewhat changed. The extremes of dryness and moisture are annually experienced, the dry and wet seasons dividing the year about equally. We extract the following remarks relative to the two most important cities in California:—

* * 'In San Francisco, during the rainy season, the streets are one perfect quagmire, and there is no getting through them without wearing the stoutest kind of boots, that reach up above the knees, and which are worn, *ex necessitate*, outside of the pantaloons. The wind, which is blowing strong almost constantly, causes the cold rain to drive so as to render an umbrella nearly useless, and consequently catarrhs, pneumonias, diarrhœas, and other affections, so easily brought on by the surface being chilled, and the blood driven in upon the vital organs, prevail to a great extent. During the dry and summer season, the dust is as disagreeable and unhealthy as the rain of winter; and the prevailing violent wind, which sets in about 10 o'clock, causes the temperature to become so cold as to render an overcoat absolutely necessary for health and comfort. The deaths by diarrhœa alone were last winter estimated at about thirty per cent. in proportion to the cases.

'In Sacramento City, about three-fourths of a degree north of San Francisco, a totally different climatic condition obtains. The climate

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and topography resemble much that of New Orleans; and while the heat of the day is excessive and oppressive, in consequence of the want of refreshing breezes, the mornings and evenings are chilly and uncomfortable. This is generally the case throughout the whole valley of the Sacramento, except that farther in the interior, among the mining regions, the solar heat is more intense. At Culoma or Sutter's Mill, where the gold was first discovered, and which may be considered the heart of the mining districts, the thermometer frequently stands at 95° to 100° Fahrenheit at meridian, and on the 30th June last it reached as high as 105° in the shade, at the hotel where I then was.'

* * 'Were I to draw an isothermal line between Sacramento City and one of our Atlantic cities, I should inflect it towards my native city, Charleston, S. C., making a deviation of about six degrees towards the south; whereas, a similar line drawn from San Francisco, would, I believe, (for, having no data, I cannot speak positively,) reach a point several degrees farther north of Charleston. This flexure of the isothermal curve, in passing from west to east, is not so great in the American as in the old continent: but the difference between the mean annual temperature of two localities so nearly situated as San Francisco and Sacramento City, is remarkable.'

He gives a particular account of the diarrhœa and typhoid fever of California, and attributes them to the vicissitudes of the weather, exposure, and improper diet. He says, the great tendency to bowel complaints in California caused the most fearful apprehensions in regard to the introduction of cholera. This event took place on the 7th of October, when the steamer 'California' arrived at San Francisco from Panama, and was reported to have on board during her passage, twenty-two cases of cholera, of which number fourteen died. She was not quarantined. Contrary to expectation, the disease prevailed to but a limited extent in San Francisco; which Dr. Logan attributes to the favorable influence of the usually prevailing high winds.

In Sacramento City no such happy influences were brought to bear, and the disease raged with almost unprecedented violence. The first case that occurred was on the 18th October; the second on the 19th; and from that time the epidemic was soon fully declared. Dr. Logan's second letter is devoted chiefly to an account of this epidemic, and is so interesting that we feel bound to give it entire.

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[LETTER II.]

A History of the Epidemic Cholera that prevailed in Sacramento City in the Autumn of 1850.

Dr. E. D. FENNER, *Editor Medical Reports:*

Dear Sir:—According to the promise expressed in my last, of the 29th October, I now proceed to give you some account of the Cholera which has ravaged our young city. As I apprehended, our worst fears have been realized—for never, in the history of this cosmopolitan disease, since its first appearance in the Gangetic delta in 1817, and its subsequent progress around the globe, which it has at last encompassed, has any visitation been so destructive and appalling. In the short space of twenty-eight days, *i. e.*, from the 19th October, the day the first death was reported, to the 15th November, when the number of deaths had tapered down to only one or two per diem, and the subsidence of the epidemic now publicly announced in the papers, the cholera has carried off 364 victims, out of a population of 6000. The like mortality is unprecedented, and only to be surpassed by the Black Death and awful plagues of the fourteenth century.* Even at Paris, in 1832, when I first encountered the disease, and where the mortality was regarded as excessive—amounting to 18,000 out of a population of 800,000, the proportionate number of deaths was not so great, by more than one-half: there, only 1 in 44 died; but in Sacramento City 1 out of every 17 inhabitants fell a victim to the scourge, and this, too, is a most moderate calculation, based solely upon the mortuary record of the two principal coffin-makers and undertakers. Doubtless many others were interred by friends of the deceased, whose names have never been published; for I know by experience that there was a greater demand for interments at one time than the undertakers could comply with. One of our city papers states that a friend, who has taken the pains to count the graves in the two cemeteries of this two-year-old city, makes the number 1170—of which 700 were made during the late epidemic; and yet the total number of deaths from all diseases, as recorded, amounts to only 481, as follows: Deaths from cholera, 326; disease unascertained, 38; other diseases, 117. Many, therefore, must have died and been interred, of whom no record whatever was taken; so, surely, there can be no overshooting the mark, when I add the 38 deaths by disease unascertained to the 326, which were positively known to be by cholera. As regards the amount of the population, there can be no possible error, for the census was completed during the prevalence of the epidemic. Among other interesting statistics annexed to this census, I find ninety physicians embraced in the population; and it gives me unqualified pleasure to state, that notwithstanding the imputations cast upon the profession, and to which I alluded in my former letter, this portion of our citizens met the emergency, and performed their duties with an unflinching

* About the same fatality attended the cholera on its first outbreak in New Orleans, in 1832. Dr. Halphen states that out of a population of about thirty-five thousand souls then in the city, upwards of *six thousand* (or more than one-sixth) were carried off in less than twenty days.—ED.

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firmness and fidelity worthy of all honorable mention. Amidst the general panic and scattering flight in every direction, the physicians of Sacramento nobly stood their ground, faced the terrific foe, and, did all that man can do, as well to ward off the common danger by precept and example, as to rescue the attacked. I apprehend not the charge of self-glorification, when I adduce the strong evidence to substantiate my assertions, that fourteen from among our ranks now swell the black catalogue of victims. And what a gratifying commentary does this fact furnish of the beneficial results of our liberal institutions and their moral fruits, when contrasted with the former condition of medical affairs here? In the renowned colleges of Castile, under the special control of a royal junta, whose prerogative once extended over this far-distant country, the degree of *Médico-Cirujano* was never conferred without the most solemn oath being exacted from the candidate, with his right hand on the book of the Evangelists, that he 'will assist with all care and diligence the sick who shall invoke his aid and, contemning all dangers and contagions, furnish the solaces of his most worthy profession to the indigent, entirely without reward.' No such solemn declaration is required in our schools or colleges, but, under the moral suasion of our free government, and the example of the illustrious patriots who have exalted the character of the nation, our graduates go forth imbued with the American spirit of usefulness, —with a sense of duty, far more stringent than any legal obligation, and, confronting every difficulty in the hour of danger and distress, vie with each other in the emulation of working for the public good.

The idea has generally obtained that sex has a considerable influence in predisposing to cholera. This alledged predisposition, which has been rather sustained heretofore by observation, does not consist, as I conceive, in sex, but in the kind of occupation and the exposure of the women. As statistical information, therefore, for comparative proportionals, I would record the fact, that the mortality here was by no means as excessive among the female portion of the population as among the male. The total of the frailer and fairer portion of our community amounted, as by the census, to the very limited number of 460: of these, only 17 died, or one out of 27; and the majority of these were from among the abandoned class. This fact goes to corroborate the often-repeated observation, that the better classes of communities—at least those who are well taken care of—are not so liable to the disease.

Without presuming to assign positively the causes of the inscrutable pestilence which is the subject of the present letter, I proceed to offer you, for publication, some further observations which I have made, more as a contribution of facts respecting its appearance here, than a detailed account of its phenomena, which have been so often minutely and graphically described. I have, in my former letter, acquainted you with the meteorological occurrences in our city during the past summer, previous to the appearance of cholera, for the reason that a knowledge of these phenomena, taken collectively with other concomitants, is generally thought important in attempting to arrive at an opinion respecting the origin of the disease. I have likewise previously

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alluded to the topography of this city, stating that it resembled New Orleans. This resemblance is now the more notable, inasmuch as the whole city is almost circumvallated by a levee, in order to provide against the annual inundation, when the rivers become swollen with the melted snows of the Sierra Nevada. When I visited this place the early part of last spring, it was nearly all under water, and the only way I could get along through the streets was on little foot-bridges, or in a canoe. Whether the exhumation of the soil necessary for the building of the levee has had any influence in the causation of cholera, I am unable at present to decide, but I deem it proper to call attention to this circumstance, because many believe a *telluric* origin to be the true one, and for this purpose I have noted a strong case in point. On the 18th October, before a single case of cholera had occurred, the schooner Montague left this city with forty-three passengers, bound for Panama. On the morning of the 22d, she arrived at San Francisco, with six of her passengers lying dead on board. Dr. Rodgers, the health officer of the port, boarded her at 11 o'clock, A. M., and reported the following deaths: On the 19th a passenger, who was buried at Benicia on the 20th; on the 21st, at 4 P. M., another passenger, after eight hours' illness; at 7 P. M., a lady; at 9 P. M., another passenger, and at 11 P. M., a foremast hand: at 2 o'clock A. M., on the 22d, the second mate and another passenger also died. The captain and four others remained sick on board. The doctor stated that the disease was cholera. No other cause is assigned for the sickness on board, except that this schooner was ballasted with surface soil taken in at Sacramento City. I have, in my last, stated that the first case I saw or heard of, occurred on the evening of the 18th October. This man had just come in from the country, and stopped at my hospital in the suburbs, unable to proceed on his way into the city. Whether he had had communication in any manner, directly or indirectly, with San Francisco, or the passengers of the steamer Carolina, which arrived at that city, from Panama, on the 7th October, with the cholera on board, I am unable to say, as he left the hospital, in order to save expenses, with the choleric fever on him, while I was out, and before I questioned him, as I intended doing, on these points. It certainly is a remarkable coincidence, that cholera should make its appearance in this quarter almost contemporaneously with the arrival of the Carolina, and furnishes strong *prima facie* evidence in favor of its transmissibility. Adverse, however, to the doctrine of contagiousness, I am disposed to to attribute its origin rather to the extraordinary diurnal summer-heat prolonged far into the autumn, and the remarkable vicissitudes or extremes between the days and nights. These would not, probably, be adequate to the production of cholera, apart from the additional predisposing causes arising from a new uncultivated soil covered with vegetable and animal substances, and annually submerged. Certes, the history of the disease proves that its chief home and seat is in low, damp situations—on the banks of rivers and swamps, or near pools and ponds of water. Those parts of cities and countries thus situated and circumstanced have always suffered most. In Hindostan, Russia, Germany, France and England,—in certain localities along the St

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Lawrence, Ohio and Mississippi of our own continent, as well as among the rice-plantations of South Carolina, Louisiana, etc., this fact has been placed beyond a doubt. In perfect accordance with these observations, we find the disease here first appearing and committing its ravages along the borders of the Sacramento river, and just exactly in that locality where the schooner Montague, already mentioned, was moored. Another reason for attributing its causation to atmospherical impurities exists in the fact, that the city was infected with flies and other insects, to a degree amounting to an Egyptian plague. If the generation of these insects is fecundated by filth, then the swarms which pervaded every place indicated a great accumulation of their prolific source. Dr. Holland, in a paper 'On the Hypothesis of Insect-life as a Cause of Disease,' suggests that the migration of insects, acting like an erratic malaria, gives the course of cholera. Whether we admit this or not, it is nevertheless true that the cholera has been spread by some subtle agencies, in various directions, over the country, although as far as my information goes, its prevalence in other places has been, comparatively with Sacramento City, very moderate. In San Francisco, where it still prevails to a certain degree, it has not assumed, as I anticipated it never would, what may be strictly termed an epidemic form.

Preceding and accompanying the appearance of cholera in any city or country, it has generally been observed that influenza and bowel affections,—diseases more particularly blended and alternated with cholera, as well as remittent and autumnal intermittents, prevail to a greater or less extent. As you are already informed in my last letter, this observation holds true in the present instance. Diarrhœa continued and still continues its ravages, and the greater portion of the 117 other deaths above mentioned, as occurring during the reign of the cholera, were from this disease alone. Some few deaths were occasioned as recorded, by congestive fever; but the analogy between the malignant form of this latter disease and the cholera, with the modifications as it prevailed here, and to be presently mentioned, is so strong that I confess, for my part, that I have not been able to discriminate satisfactorily between them. And here I take occasion to express a doubt, which is daily growing stronger in my own mind, whether cholera, such as it exists here and in some other parts of the United States during the autumnal months, is not a most malignant type of congestive fever, with severe abdominal complication—bearing a close affinity with the pernicious remittent or the intermittent ataxic fever of the writers of continental Europe, and so particularly described by Torti, Ramazzini and Riverius, of Italy. Nothing tends more strongly to confirm my view than the medical history of this country. The annals of the early missionaries show that many persons fell victims to a deadly disease, closely resembling cholera, every autumn. Still earlier in the Fall of 1535, Cortes states, that so great a mortality prevailed, that he and his companions who lived to escape, fled from the land for safety. In corroboration of this historical fact, the old settlers and Californians affirm that there has always prevailed a fatal sickness during the Fall, and several of the physicians who were here last autumn say that a disease

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similar to the recent epidemic then occurred. The mortality at Fort Sutter, after the conquest of the country, was such, that nearly the whole garrison was carried off. Thus it appears, that long before cholera was heard of, a disease existed in this quarter of the globe equally as fatal and alarming; and that subsequently, without its having excited as much attention or alarm as the name of cholera occasions, symptoms, strongly resembling the recent epidemic, had been observed to form what was supposed to be the initiatory and often fatal stage of malignant congestive fever. Without taxing your patience, however, any longer at present with my crude notions respecting the cholera of California, I hasten to mention briefly the modifications I most frequently witnessed.

Generally speaking, the purging during the cold or choleric stage was not so copious or forcible as I witnessed in Paris, nor did the peculiar 'conjee stools' always present. I noticed occasionally an assimilation to what has been already described as the 'port-wine' dejections. In some cases which terminated fatally without reaction, there was no purging whatever. The vomiting, too, was not of that syringe like squirting character pathognomonic of cholera; although the hurried interrupted respiration clearly indicated spasm of the diaphragm and intercostal muscles, and severe cramps in the extremities constituted a great part of the sufferings. I did not meet with a single case in which fever did not intervene between the algid stage and restoration to health. In the few cases which terminated favorably, this fever was slight, but it invariably corresponded in intensity with the collapse. In the unfavorable cases, there was strong evidence of a congestive subinflammatory state of the brain and spinal marrow, conjoined with a similar condition of the stomach and bowels. This may have been partly attributable to the opium, which nearly every physician resorted to, in some form or other, to meet the indications in the algid stage; but the turning up of the eyes, and exposing the lower part of the vessels of the sclerotica gorged with blood, denoted something more than narcotism alone. The tongue, in these cases, became brown and more deeply furred, and the teeth and lips covered with sordes. The state of the skin varied — chills alternating with heat. The pulse became extremely quick and tremulous — the breathing sterterous — and the patient sunk incoherent and insensible into a complete and fatal coma.

With this last scene in the gloomy picture of the disease just sketched, I must bring to a conclusion the medico-historical account of my first season's experience in California, — a land where I had been led to expect an Italian clime — an Archipelagean salubrity, and El Dorado harvest! I am, nevertheless, grateful for the share of prosperity, though far below my inflated expectations, and the degree of health, imperfect as it has been, of which I have been the participant. Under Providence, I attribute my preservation from 'the pestilence which walketh in darkness and destroyeth at noon-day,' to the prophylactic use of quinine. On this invaluable remedy, in small broken doses, I chiefly relied in my treatment of the epidemic, combining it with other adjuvants according to indications and circumstances, and in this manner obtaining either its excitant, or sedative, or well-known intrin-

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sic neutralizing effects upon malarial and paludal fevers. And with this single remark, I begin and terminate all I have to add to what is already known in the treatment of cholera.

Sacramento City, California, Nov. 30, 1850.

[LETTER III.]

Land Scurvy—Its Pathology, Symptoms, Causes and Treatment; Poisonous properties of Food and Water in a state of Fermentation or Putrefaction.

Dr. FENNER, *Editor Medical Reports:*

Dear Sir:—The winter and wet season has passed away without the prevalence of either the rains or the morbid affections which the experience of the last year led us to anticipate. Indeed, such has been the unprecedented mildness and dryness, that I know not, at present, which to commend most—the salubrity or the pleasantness of the winters of this portion of the *Eureka* State; and, by way of making amends for my former querulousness about the climate, I would in candor state, that my own health is entirely reëstablished under its genial influence.

While thus incidentally alluding to the climate, I cannot refrain from calling attention to the fact, that no place in the world is better adapted for telescopic observations than this. Such is the transparency of the atmosphere, that the Sierra Nevada, although nearly one hundred miles distant, are as distinctly seen with the naked eye as if they were within the compass of a league; and what is still more important for astronomical purposes, 'no clouds'—as Sir David Brewster wished it—'disturb the serenity of the firmament, and no changes of temperature [at this season] distract the emanations of the stars'—for it certainly never rains during six months of the year. Let us, then, hope, that as a Kirkwood has been found in our country, to demonstrate the nebular hypothesis of La Place, so another Herschel may rise up from among us, and transport his telescopes to a far more propitious locality than the south of Africa—here to immortalize his own name, and add to the scientific glory of Young America!

Since the cholera has swept off those valetudinarians who would have been fit subjects for some form or other of the legion of maladies which it is our province to combat, there has been little or no immigration into the country; and, like myself, most of the inhabitants now here have undergone that *habituation*, or *modification* to the climate, termed *acclimation*, which, with ordinary prudence, ensures exemption from endemic disease. In the absence, therefore, of a fresher or more novel subject, I purpose, at present, in continuation of my 'Observations on the Climate and Diseases of California,' to devote this, my third letter, to a consideration of that ancient and almost eradicated disease, Land-Scurvy, which has hitherto been a source of wide-spread calamity among the overland immigrants and miners.

The corrupted term, latinized in our books, Scorbutus, has, both in professional and popular use, such an extended and vague signification, embracing various morbid affections of the skin, unallied to our sub-

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ject, that I would here premise, in its present application, I mean an universal disease — one which, like the blood — the *fons et origo mali*, pervades the whole of the human frame, manifesting itself by great general debility, depression of the spirits and vital energies, more or less *fungoid* sponginess of the gums, fetor of the breath and bloating of the surface, especially of the face and lower extremities, together with spontaneous hemorrhages, and other concomitant symptoms, soon to be described. Having seen much of the scorbutic cachexy among the newly-arrived transatlantic emigrants, during the years of the last dearth in Ireland, at the Charity Hospital of your city, I assert, with confidence, that I can perceive no essential mark of discrimination between land and sea scurvy; although, as you will see hereafter, there is some diversity in the series of morbid actions, and in their supposed causes. In both instances I have found the blood present all the well-known pathognomonic peculiarities already so accurately described by writers on sea-scurvy, when submitted to *clinical* analysis, or its spontaneous changes after being drawn from an artery or vein, that I deem it unprofitable to recapitulate them. Applied to the tongue, however, in the present instance, the absence of any saline taste struck me as peculiar; and this circumstance induced me to resort to the tests suggested by Stevens, which I was gratified to find perfectly satisfactory. I say satisfactory, because I hope to be able to develope, in the course of this letter, the important relation the new doctrine of animal chemistry bears to the result when applied to my present subject. Treated with the nitrate of potassa, or chloride of sodium, the blood soon lost its morbid black color, and resumed the healthy modena-red. Nitric and hydrochloric acid failed to produce the same result. Acetic and citric acids were still more inadequate; and the same may be said of the hydrate of potassa and the alkali soda. I regret that the impossibility of procuring the proper instruments in this new country has hitherto prevented me from making a satisfactory microscopical examination of the blood, for, although I cannot speak with scientific certainty, still I think *sporidia* are to be detected; and this opinion is corroborated by one of the attendant phenomena of the disease soon to be mentioned.

I have had but few opportunities in California of witnessing or hearing of the results of autopsical examinations, but, as far as my knowledge goes, the blood is the only structure always diseased. The dyscrasy and abnormal condition so invariably found in the *liquor sanguini*, whether flowing from venesection, or issuing hemorrhagically from the nose and gums, is equally evident *post-mortem* — the blood being then so broken down and fluid, as to run in a black and yellowish streak from any of the large veins. The mucous surface of the stomach and intestines is generally pale, and the membrane of the stomach sometimes in a state of *ramollissement:* dark purple patches, resembling *ecchymoses*, have been seen in various parts. The spleen is almost invariably found increased in volume and softened in structure. Extravasations, more or less indurated, are met with in the liver. The mesenteric glands are generally swollen and imposthumated; and the kidneys are also sometimes in the same condition. Serous fluid is

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commonly present in the cavity of the thorax, which gives rise probably to a distressing dyspnœa attendant on the last stages of the disease; although I am rather inclined to attribute the pain about the precordia and oppression at the heart to the disturbed and imperfect capillary circulation, and the consequent accumulation of vitiated blood in the large veins.

So much for the HÆMATOLOGY and PATHOLOGY— the starting point to be kept in view, while I proceed to point out other SYMPTOMS, diagnostic and pathognomic — to discuss the CAUSES, both predisposing and exciting; and again to be resorted to in demonstration of the nature and operations of the TREATMENT found best adapted by observation and experience.

From the first onset, the subjects complain of lassitude and shifting pains, especially about the ankle joints, knees and back, and are averse to all kinds of bodily exercise. The tongue is furred, the breath fetid, and the gums are swollen. There is tenderness of the epigastrium, much thirst, and indications of morbid appetite. The countenance assumes an anxious, distressed appearance. The skin of the face, as well as of the rest of the body, becomes pallid, and presents a bloated appearance. The lips, and caruncles of the eye, where the capillaries are most distinctly seen, take on a yellowish green hue. Upon examining the legs closely, *petechiæ*, or minute dark red or livid points, are observable at the roots of the hairs. This I have discovered to be one of the most reliable of the early symptoms. Another early indication of the scorbutic diathesis is, that the slightest scratches on the skin, or contusions, which, under other circumstances, would scarcely elicit attention, are apt to proceed to troublesome ulcerations, and, betraying their real character with the further development of the disease, afford a sure note of discrimination from purpura. The skin is for the most part dry, and if feverish heat is developed, as is sometimes the case, it becomes rough, resembling that which is vulgarly called 'goose-skin.' Most frequently, however, it is smooth and shining, in consequence of serous effusion into the subcutaneous cellular substance. As the disease advances, the petechiæ become larger, and are transformed into *vibices*, or spread from spots into patches or *ecchymoses*. In those cases brought on by great suffering and privations in travelling across the plains, or where there is great debility from previous illness, especially from derangement of the digestive organs, a hard and tumid abdomen —the certain index of mesenteric depravity— presents. The gums, in these cases, next become more seriously affected. Day after day their blunt, projected edges grow more and more prominent — become soft and ulcerated, and soon assume a spongy, hemorrhagic character, while fungus shoots up around the teeth. The fauces and mouth become pale and exanginous — the tongue more loaded — the breath more feculent, and the teeth imbedded in the vegetating gums get loose and unfit for mastication. As the blood, or rather the whole system, becomes more poisoned, (for I believe with Andral, that, as the blood nourishes the solids, and as without its presence they cannot sustain life, so the state of the solids cannot but be influenced by the state of the blood,) indurated and painful swellings, occasioned, it

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would seem, by the rupture of vessels, and the escape of their fluids, in consequence of the imperfect contractility and fragility, occur in various parts—generally in the arms and hands, legs and feet. These often break externally, and discharge a fetid, sanious fluid through one or more ulcerated openings, the edges of which assume a livid color. At last a bloody coagulum is formed around and upon the ulcerated parts, which is sometimes transformed into a soft mass of *fungi*, and is with difficulty separated from its adhesions. This fungoid development, which first declares itself in the gums, as I have already stated, is certainly a most remarkable phenomenon, and may be regarded adequate to show, in accordance with the theory of Liebig, that the tainted blood in the system, in a similar manner to the action of yeast, or gluten in a state of change, is proceeding through the processes of fermentation in the series of transformations by which organic are resolved into inorganic compounds. Most of the cases, however, terminated fatally before this interesting phasis presented, in consequence of the supervention of diarrhœa, which was, as I have stated in a previous letter, epidemic last year. And here I will take occasion to remark, that perhaps the chief reason why the diarrhœa of California proved so fatal last year was, because in nearly every instance among those who came across the plains, the system was tainted with the scorbutic cachexy, and the recuperative powers of nature perverted, before the development of the former affection; and, *vice versa*, the catenation of morbid actions, which, under other circumstances, might have been broken up and brought to a favorable issue by the superinduction of diarrhœa, remained uninterrupted. Although this remark rather conflicts with the well-established Hunterian doctrine, it is, nevertheless, true. In fact, the two diseases were so commingled, that in many cases it was impossible to decide which predominated. Under this combined invasion, the unhappy sufferer soon sinks into a state of fatal torpor and indifference; hemorrhagies ooze from the gums, bowels and other parts, and the living body is suddenly transformed into a rigid corpse.

Such are the most constant and essential symptoms; although there is much diversity in the order of their appearance. While the disease is progressing in its course, there is no organ or part of the system which is not liable to its invasion. Any constitutional disorder or previous affection under which the patient may have suffered is apt to be lit up anew upon the supervention of the scorbutic diathesis. Indeed, wherever there is a weak point in the system, there scurvy is sure to manifest itself. Old ulcers and wounds long cicatrized break out afresh, and former tendencies to incurable diseases, hemoptysis, phthisis and other organic lesions, as well as the sequelæ of prior affections, are re-developed. Even in well-consolidated fractures, severe pains and exalted sensibility occur about the region of the old injury. Some morbid condition of the brain would appear to be occasionally present, as headache, vertigo; pain and watering of the eyes not unfrequently attend. The occurrence of nyctalopia and hemeralopia rather strengthens this opinion, as these affections certainly indicate injury done to the optic nerves, either at their origin or in their course. I

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have seen several cases of the former affection — night-blindness — but not one of the latter. No medically-educated person, however, who reads the deplorable account by Judge Thornton of the sufferings of the overland immigrants in 1846, will fail to discover, in the effects upon the system of the loathsome and unnatural food (human carcasses and beef hides, etc.) on which the wretched sufferers subsisted for months, other causes than the alleged one — reflected light from the snow on the mountains — for the frequent occurrence of day-blindness. In bad cases, when the patient lives long enough, he is often deprived of the use of his inferior extremeties, the flexor tendons of the ham becoming contracted and hard. I have frequently seen the calf of the leg, as observed by Lind, quite indurated, without any swelling. This, however, I regard as one of the sequelæ. The pulse is found to vary according to the habit of the patient and stage of the disease; being in general slower and more feeble than in health. Auscultation of the region of the heart generally discloses, towards the latter stage of the disease, the *bruit de diable*, as well as an intermitting arterial *souffle* along the carotid and subclavian. The urine is scanty, high colored and rankly odorous of ammonia, generated perhaps by spontaneous decomposition in the bladder. The appetite for food is generally craving to the last, and death has often seized the sufferer in the act of eating. Upon the slightest exertion syncope is apt to occur: and not unfrequently upon such occasions, or upon exposure to the air, instant death takes place.

After a due consideration of the foregoing phenomena, so allied in their nature and effects to the well-known symptoms of sea-scurvy, I am satisfied you will arrive at the same conclusion with myself — a conclusion which confirms the accuracy of Cullen's view — 'that there is one disease only entitled to the name of scurvy; that it is the same by land as upon the sea, depending everywhere upon the same causes.'

It is true there is a remarkable divergence in the line of symptoms, particularly in the complication with diarrhœa; but this must be regarded as altogether accidental, and is to be attributed to the well-known Protean character of scorbutus. Indeed, it is rather confirmatory of my foregoing views, since it has been invariably observed by writers, that if any epidemic should prevail at the same time with sea-scurvy, the subjects of the latter are predisposed to be attacked by it, even if there should appear to be no correspondence between the two diseases. Thus, although diarrhœa masked and modified this disease, still the fact of its being engrafted on the scurvy, as it prevailed here, goes to corroborate the opinions already advanced.

I pass on to the Etiology. In the whole history of the immigration into this vast continent, from the first landing of our forefathers on the Atlantic border, down to our last halting-place on the Pacific ocean, there has never occurred such an amount of suffering and calamity as has accrued since the discovery of gold in California. The almost interminable plains, now whitened with the bones of thousands of the bravest and noblest of our adventurous people, attest the truth of this assertion. Some, surmounting by a moral heroism unrivalled in the history of the most arduous campaigns, the arid desolation of thousands

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of miles — after enduring unheard-of privation, and struggling successfully through months of continuous travel over the prairies, laid down within a Pisgah view of the long-promised land, to perish with famine among the defiles of the Sierra Nevada; whilst others, capable of enduring greater fatigue and suffering — men of indomitable will and iron resolve, breathed out their last hopes of life, ultimately overcome by disease, even in possession of the glittering bauble which had stimulated them to reach the goal of their desires! The medical philosopher, looking back on the harrowing account of these scenes, which, while they attest the courage of the Anglo-Saxon race, sicken us with the extent of suffering; and knowing well how to appreciate the effects, not only of such prolonged physical, but also of the attendant moral evils, —the disappointment under perilous circumstances, and the unexpected delay in schemes to which the brightest hopes were attached — is, therefore, prepared to expect the recurrence of any or all of those diseases which the ameliorations of civilization, and the triumphant march of hygienic medicine, may have driven from the abodes of man. In meeting, then, with symptoms corresponding to a distemper known to him only in the pages of history— the history of those ages when, in our ancestral England, civilization was so little advanced that the food of the Londoners, for six months in the year, consisted of the dried meat of animals which could not be subsisted in winter because hay was not known, and when Catharine of Arragon, queen of Henry VIII., was obliged to send to the Netherlands for a salad,— he at once comprehends the causes, while recognizing the malady.

If the account of the diseases of California, in these letters, be of no other value, it will at least establish two facts respecting the history of scurvy; first, that cold and moisture, hitherto regarded as the most powerful predisposing causes, have had no share in the production of the disease; and, second, that insufficiency and unwholesomeness of nutriment, with the superaddition of excessive fatigue, want of cleanliness, and moral suffering and disappointment, are the most active agents in its causation and excitation.

It is well known that the line of march is taken up by the immigrants during the summer or dry months, when often for many days so little water is met with, that not even a drop can be procured to cool the parched tongue. Well-authenticated instances have come to my knowledge of $100! having been offered for a single glass of water, and that, too, of a polluted and stagnant quality, and it was refused — no money could purchase it. The titurated and comminuted dust, reduced to an almost impalpable powder by the continued tramping and friction of cattle and of wheels, floated in the ambient air like a thick cloud, obstructing not only vision and the air-passages, but choking up the pores of the skin, so that no transpiration whatever could take place Ablution was out of the question, and the Americans are not Mahommedans, to substitute friction with the sand. Under these circumstances, also, no cooking could be done, and the subsistence consisted, during the greater part of the journey, of animal food in a state of putrefaction, or hardened and changed in its nature by the process of drying in the sun or salting, with a preponderating proportion of

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farinaceous substances, ill fermented, and without fresh vegetables or such dietetic drinks as contain their elementary principles. Superadded to all these privations and fearful obstacles, a vertical sun poured down its burning rays, unmitigated even by the shadow of a tree. The weary pilgrim suffers a horrid sensation of drying up; a burning thirst consumes him; his saliva becomes viscous, and his frame shrinks to extreme emaciation.

As it is on the plains, so has it, until very recently, been in the mines. At present, the mighty commerce of this wonderful age has brought to these barren and uncultivated shores such an abundance of comforts — nay, even the luxuries — of life; those of a perishable nature hermetically protected by the no longer visionary, but practical, seal of science, that, with their introduction, ready cooked, into the mess of the miner, scurvy is now almost exterminated from the country. Previously, however, to this felicitous state of things, the causes of scurvy were as rife among the mines as on the plains. It is true there was water for ablution and for cooking, but such is the arduous nature of the work, and so eager has been the thirst for lucre at the early period of the gold fever, that the laborer at this exciting business was too much exhausted by hunger and fatigue, either to prepare his food properly, or to practice those habits of cleanliness so essential to health. That such has been the mode of life in the mines I know full well, from personal practical experience. Unhabituated as I was to such hardships, my health soon gave way; and so paralysing was the effect of the aching in my ancles, knees and back, caused by the incipient cachexy, that it was with difficulty that I could summon to my aid resolution enough to travel away from the scenes of suffering and privation then around me.

There is yet another practical experimental reason for believing that neither moisture nor humidity have any part in the production of scurvy. It was my fortune to reach this country by the tedious and perilous route via Cape Horn, at the most inclement season. The vessel in which I made this passage was a small schooner of only seventy-five tons burden, and altogether unfit to contend against the heavy seas of that tempestuous region. We were four months doubling the Cape, and during all this time our decks were saturated with water, and our cabin was kept constantly wet by the seas our little bark was continually shipping. The sailors never once enjoyed the luxury of sleeping in dry clothes, and the rest of the crew and passengers, amounting to about forty in number, were often no better off in this respect. Everything on board became mouldy and damaged by the water; even my stock of medicines, which I had caused to be carefully packed, and which were stowed away in the driest part of the vessel, immediately under the cabin, became ruined by the moisture. Yet, during all this continued suffering from cold, moisture and confinement, not another symptom of the scorbutic cachexy presented, except chilblains, which attacked the hands and feet of nearly every one on board. These, doubtless, were evidences of impaired vigor; but, regarding them as proceeding from failure of circulation occasioned by confinement and want of exercise, I treated them as local, not consti-

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tutional ailments, analogous to frost-bitten parts, and found that as often as they recurred, they were as readily relieved by either terebinthine or camphorated unguents. Fortunately, we had laid in a large supply of potatoes, poultry, pigs and pure water at the Island of St. Catherine, on the coast of Brazil, and to this abundance of wholesome nutriment, superadded to our compulsory and involuntary immersions and ablutions in sea-water, I attribute our exemption from scurvy. After this statement, I will not say one word of the prophylaxis in scurvy, because it would be superfluous.

As the corollary of these, my foregoing propositions, I proceed to a brief discussion of the treatment, which will be found to be as simple as it is philosophical. I have already observed, that since the introduction by commerce of the comforts and necessaries of life, as well as of other ameliorations in the condition of the miners, scurvy is at present rarely met with. The cause being removed, the effect ceases. This fact, which observation and experience establish, is also fully sustained by the chain of reasoning, linked, as it were, together by the pathology, symptoms and causes. It has been shown, when treating of the pathology, that, besides the blood, the digestive organs are the structures most commonly found in an abnormal condition. Of the early symptoms, the inertia, furred tongue, tenderness of the epigastrium, thirst, etc., indicate that the gastro-intestinal organs, which first bear the brunt of the innutritious and peccant food, are becoming impaired in the performance of their function, which is to supply the blood with proper pabulum for all the tissues. Now, while the blood receives from the newly-assimilated food, just ripening into life, the substance of all the tissues, which it imparts in its circuit through the system, it is so nicely balanced between chemical and vital forces, that as it flows through organ after organ, its composition and vitality is not only modified by the peculiar activity and condition of each, but it reflects back also through them upon the system every impression which reaches it from without. In addition, therefore, to the noxious qualities imparted by continuous bad diet, the blood becomes farther deteriorated for the want of due decarbonisation in the lungs, and still more adulterated by the accumulation of effete matter no longer carried off by exhalation and perspiration — these important organs being impeded in the performance of their functions by the dust and dirt, as I have already pointed out when treating of the causes. More than all this, the kidneys being over-tasked to perform a vicarious duty, become likewise unfit to depurate the blood, which, becoming diseased or poisoned, reacts upon these and other organs, the nervous system becomes impaired, and the whole system is at last involved in one universal disease. This theory, which may, *a priori*, appear crude, is nevertheless sustained by the result of the treatment thereon predicated. The indication is to restore the most important structure (the blood) to its normal, life-sustaining condition; and this is to be done, first, by supplying those constituents of which it has been deprived; and, secondly, by bringing back its natural emunctories to the performance of their legitimate functions.

Reverting to the history of the disease, it has been seen that un-

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wholesome diet, want of cleanliness, fatigue, etc., were its invariable antecedents and concomitants. The legitimate inference, therefore, is, that if such were the causes, a converse condition would furnish precisely those constituents of the blood so essential to its normal standard, and consequently to a general return of health. To fulfil the first point, then, indicated in the treatment, let the patient be put upon a generous diet of fresh vegetables, fresh meat well seasoned with salt, milk, and that 'first necessary of life,' pure water, the menstruum which holds in solution or suspension the other constituents of which the blood is composed and the body built up. To accomplish the second point, recourse is to be had to tepid ablutions, clean flannel next to the skin, and a comfortable bed, etc. Under this treatment the patient begins to recover with a degree of rapidity which, considering the previous ravages of the disorder, is most extraordinary. Now, it is well ascertained that in these articles of diet are to be found entering largely into their elemental composition, constituents of those very salts which exercised such a remarkable reäction on the diseased blood; and the just conclusion would be, that these salts are the most efficient remedies. My experience, however, convinces me that the nitrate of potassa and chloride of sodium are inadequate to effect the same changes in the *liquor sanguinis* of a scorbutic patient, when administered internally, that they produce on the blood out of the body; consequently, the proper mode of obtaining their therapeutic effects upon the blood of the living subject, is precisely in that state of chemico-organic combination in which they enter the circulation through the medium of the above-mentioned articles of food. Thus my whole argument sustains itself throughout, and, *a converso*, establishes, with syllogistic force, the proposition first advanced, that scurvy is a disease of the blood caused by the deficiency of the constituents of the salts of potassa and sodium, and that the treatment consists in the introduction into the blood of these deficient salts, in that form of combination in which they enter the system through the medium of wholesome food, — a form of combination, it is true, inappreciable in the present state of our knowledge, but which the further prosecution of animal chemistry, and more extended researches into the laws of organic life in health and disease, are destined to reveal.

Although inefficient to effect the cure *per se*, still I have found nitrate of potassa instrumental in expediting recovery, when exhibited for its well-known diuretic effect, according to the second point in the treatment, even in cases complicated with diarrhœa, and in which it would appear to be contra-indicated. In other respects, the treatment of complicated cases is to be regulated by the same principles which would guide us in every disease. When there is effusion into the pleura, or where an œdematous condition of the legs and other parts exist, resort may be had with advantage to the iodide of potassium for its eutropic and general excitant influence upon the vital actions, and especially upon the absorbent system. For the scorbutic ulcer, the best application is Labarraque's solution of the chloride of soda — it is the *magica* (*?*) *remedia*.

Thus far, you perceive, I have confined myself to deductions from the

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observation of what was manifest and palpable. There are yet other links in the chain of causes and effects, which it would, perhaps, be profitable to follow up — particularly those molecular changes, which probably exercise the greatest influence in pathological causation; but to these I must rest satisfied in referring in a general manner, not wishing to embarrass my reasoning with any suggestive notions, that may render it amenable to the charge of complexity. Some well-established facts, however, bearing on the doctrines of animal chemistry, are so correlative to my subject, that I cannot conclude this letter without bringing them to your notice; especially as I see by the late journals you were kind enough to send me, that you are still so zealously investigating the deleterious qualities of that important medium of physical and vital transformations — *water*. I am more and more satisfied every day I exercise my profession, that the greater part of those maladies we are called upon to relieve, and which most embarrass the scientific physician, are attributable to poisonous properties, chemically or physicially produced, in the food we eat, and the liquids we drink.

Not long since it was discovered that one of the chief articles of subsistence in Germany, contained the elements of disease and death within itself, as potent as the most active poison. If eaten in a state of fermentation, or putrefaction, which is denoted by a bad smell and their growing soft and slightly pale in the middle, German sausages produce a dreadful form of disease. They act upon the yeast principle, already referred to, by bringing about in the blood and tissues of those who eat them a state of dissolution analogous to their own. Just so acts bad diet in producing scorbutus; and the correctness of this inference lies in the fact that in several of the processes of putrefaction, of which yeast is an example, a fungoid development is concomitant. You perceive, I use the terms fermentation and putrefaction synonymously, because they fall under the same chemical definition: the former giving place to the latter, when a part of the gaseous resultants evolved have a disagreeable smell. Thus sugar is said to *ferment* because the only resultants are alcohol and carbonic acid gas; and flesh is said to *putrefy*, because its sulphur and phosphorus are evolved in combination with hydrogen, as stinking gases.

Now, long before these doctrines were broached, Sir John Pringle, in his 'Observations on the Diseases of the Army,' stated his belief that scurvy was the result of a gradually accumulating *putrefaction* in the blood, from the *putrescency* of salted food, which he deemed the chief cause of the disease; but as he could not give a reason for his belief, or rather one calculated to meet the requirements of the improving methods of philosophising in medicine, his doctrine, like that of Cullen, has never been sufficiently appreciated. Observe, he did not attribute the disease, as is commonly done, to the salt in the food, because he knew well that the important ingredient of healthy blood was antiseptic, and calculated to retard rather than to accelerate putrefaction; but to the putrescency of food salted inefficiently, or kept too long, as is apt to be the case, and was doubtless so with a great portion of the overland immigrants during their long journey across near three thousand miles of a wild and desert country, and their sub-

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sequent sojourn among the mines before the necessaries of life were attainable. Thus, that cause, which this sagacious observer only suspected, is shown to be an efficient one, and in perfect accordance with the molecular laws, that regulate organic matter, and which can alone elucidate the nature of the series of changes in the body by which the object is effected.

Another well ascertained fact respecting the nature of this mode of poisoning by food in a state of fermentation or putrefaction, is, that the application of a force, such as boiling heat, or the addition of an unfermentable substance, such as alcohol, are capable of rendering such food innocuous, by arresting the process. Poisonous sausages are restored by boiling, or by immersion in alcohol, to the condition of wholesome food. I have stated among other noxious influences, or causes of disease, to which the immigrants were exposed, the scarcity and bad quality of the water during the greater part of the journey, and the continued exposure to the parching influence of a summer's sun. If they had not water enough for many days at a time to quench their thirst, of course the boiling preventive against the deleterious qualities of their food was seldom had recourse to. The water itself, which they were often obliged to draw from every muddy brook or rivulet, and to carry long distances in canteens and other vessels, exposed to the heated atmosphere, may be regarded as playing also as active a part in the causation of scurvy, as the bad food. We know that, when pure, water is not liable to fermentation or putrescence. Fresh from the chemist's still, or called into existence from its elements, by burning hydrogen in half its proportion of oxygen, it is as innoxious as it is devoid of color, taste and smell. But it is seldom or never met with in this condition; for, independently of its absorbent power of gases, (a practical example of which is afforded in large cities by its contamination with coal-gas, which leaks from the gas-pipes into the soil, and is sucked into the water-pipes by the vacuum which the water creates in its recession towards the mains when turned off,) it possesses likewise, as you have shown by the result of your analyses, solvent powers so powerful as to act even on the lead-pipes in which it is circulated through your city. Even the granitic-rock is disintegrated by its action; and siliceous matter, from the deep Plutonic strata, is brought up by springs, in solution, so strong, that objects dipped in them become coated with a flinty deposit.

Again, in its descent, rain, the agent of supply to our rivers, springs, ponds, etc., becomes contaminated not only with the soluble gases, but also charged with the more volatile portions, arising from decaying organic matters containing myriads of animalcules, carried up into the air by the vapor which is constantly ascending from the earth's surface. In this country, where the drought continues for more than six months at a time, the atmosphere becomes so charged with organic and other matters that the tainting of the pluvial water is not only evident from color, taste and odor, but is declared also by the rapidity with which it runs into fermentation as soon as it is exposed to a moderate degree of heat. I say a moderate degree of heat, meaning thereby any degree of atmospherical temperature below 212° Fahrenheit; because

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if the heat be carried to the boiling point, the fermentative property, as before stated, is destroyed. Thus, it is well known in California, that the only certain means of escaping the diarrhœa, is either to drink tea or coffee, or to add alcohol to the water; and thus we have a scientific reason why our pilgrim fathers, of the ice-bound Eastern States, were not in olden time affected in a similar manner by sufferings and privations as great as their adventurous sons encountered on the sunny western shores of our immense possessions.

Cold arrests fermentation just as boiling water does; and it is only as the temperature rises towards 60° Fahr., that the solvency of water and the fermentability of dissolved organic matter becomes possible. With every advance of the thermometer towards the highest summer heat, both processes receive a fresh impulse. Now, there are facts and analogies tending to show, that when fermenting organic matter, instead of being concentrated in a sausage, is diffused through water, even in infinitessimal proportions, there may be such a peculiar state of activity in the molecular transposition as to render its action on the blood ulteriorly as deleterious as if it were less diluted. Not long since it was observed that the fish and frogs disappeared from a brook at Nottingham, in England, into which the putrescent residuum of a starch factory was emptied, and that the cattle, also, which resorted there for drink, suffered a series of symptoms analogous to those caused by sausage poison. After a number of cattle had thus perished, the contamination of the water was stopped by an action at law, upon which the fish and frogs soon began to reäppear and the mortality among the cattle ceased. In this case the albumen and gluten ejected from the starch-works in a state of chemical change, although diffused through the brook in an almost inappreciable degree, nevertheless excited a similar transposition of molecules in the solid and fluid constituents of the bodies of the cattle. It is well known that a large dose of arsenic, suddenly swallowed, often fails to produce its deadly effects. Concentrated, it excites the stomach and diaphragm to its immediate ejection from the system; whereas diluted, and taken in small successive portions for a long time, it never fails to cause degeneration of the whole body and ultimate death.

There are other important relations which water bears to organic bodies calculated to elucidate my subject, but which the limits of a letter will not permit me to discuss. One or two remarks I will add as to *quantity*. Dalton, by a series of experiments tried in his own person, found that of the food with which we daily repair our wasting bodies, five-sixths are water; and Berzelius, in recording the fact, that of the human frame, (bones included) only about one-fourth is solid matter, (chiefly carbon and nitrogen) the rest being water, remarks that the 'living organism is to be regarded as a mass diffused in water.' The same may be said of vegetable bodies. Potatoes, for example, contain seventy-five per cent, (by weight) and turnips no less than ninety per cent. of water. This accounts for the small inclination of turnip-fed cattle and sheep for drink. As water, therefore, enters so largely into the constituents of organized bodies, it would appear that if its impurity was not one of the active causes of the scorbutic cachexy,

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the want of the necessary quantity, independently of the quality, may be justly regarded as one of the many active agents in producing the affection.

Thus the subject gathers interest and importance in whatever mode we view it. In the wide range of analogical probabilities which it opens up before the eye of science, we see, although it may be yet obscurely, the solution of many problems of disease, which hitherto have baffled the most searching philosophy. May we not trust the clue has now been found to unravel the intricate cause of the 'milk-sickness' of our Western States?—or, ascending higher and taking a more comprehensive glance from the expansive lens of the known to the unknown, predict with astronomic accuracy that we have found the shape in which the material of choleric, yellow, and other fevers—something more palpable than malaria, shall appear, and take its assigned station among the fixed facts of morbid causation?

I will continue to aid you, dear sir, in your laudable efforts in compiling a Southern Medical History of the times—(this portion of California, isothermally considered, being within the range of your objects)—by transmitting for record upon the pages of your reports, such original phenomena of disease as the arrangement of Providence may cause to pass in review before me in this new and interesting field; —hoping that, by thus extending the sphere of our observations in a ratio commensurate with the grandeur and extent of our country, so much the broader and deeper will be our future generalizations—the more profound and accurate, and the more worthy of confidence our conclusions. *Ad interim*, I remain yours truly,

T. M. L.'

CLOSE OF THE VOLUME.

We here close our original communications, and find ourselves at the *extreme limit* to which the publishers can allow this volume to be extended, whilst we have yet on hand a considerable amount of matter prepared for insertion. The promised *Excerpta* relative to the Dengue of 1828, and the Epidemic Cholera of 1832, with an abstract from the Medical Journals, and some notices of New Works, must necessarily be omitted; and we deem no apology required, as we feel conscious of having done all that existing circumstances would allow. By the time the next volume comes out, it is hoped that the Work will have received such substantial support as to prevent us from being thus cramped in our efforts to serve the profession.

As a special favor, we have permission to insert the following brief notice of the last meeting of the American Medical Association, instead of the full minutes of the proceedings, which we intended to give.

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THE AMERICAN MEDICAL ASSOCIATION.

The regular annual meeting of this Association took place in Charleston, South Carolina, on the 6th of May. The number of delegates in attendance was something upwards of two hundred, representing the profession in twenty-five States. We had the honor, in connection with Professor Jones, of this city, to represent the Louisiana State Medical Society and the Physico-Medical Society of New Orleans—the Medical Department of the University of Louisiana was represented by Dr. Jones alone. As this was the first meeting of the Association in the *South*, we had expected to see a much larger delegation from this region. The members in attendance came chiefly from the Northern and Middle States. North and South Carolina and Georgia were well represented; but the great State of Alabama sent but a single delegate, Louisiana but two, and Florida, Texas and Arkansas *none*. The medical institutions entitled to be represented in this national association should, by all means, defray the traveling expenses of their delegates. No respectable institution should accept of *gratuitous services* from persons who cannot render them without considerable sacrifice. The *mere honor* attending the service here spoken of is not sufficient to compensate physicians who are dependant on their practice for support, for an absence of several weeks, and all the time on expense.

If the medical colleges, societies and hospitals, really wish to be represented in a national association of this kind, as little as they ought to do would be to pay the traveling expenses of their delegates; and if they would do this, they would always be well represented. A contribution of five or ten dollars by each member would certainly be very small, when compared with the loss necessarily attendant on an absence of two or more weeks from business. Moreover, if this were customary, a better selection of delegates might be made than when the sole dependance is upon the convenience of those who may accidentally have business or be traveling in that direction.

We have thought proper to call the attention of Southern medical societies to this point, under the hope that more efficient steps may be taken hereafter to correct the error.

We were pleased to see, at the late meeting in Charleston, many of the most distinguished members of the profession in America—some who have grown gray in the service, and whose names have become as familiar as household words. The meeting was altogether one of the most delightful that can be imagined, and will ever be cherished with fond remembrance by every one present. We have been kindly favored by Dr. P. C. Gooch, of Richmond, Va., one of the secretaries of the Association and editor of the 'Stethoscope,' with a copy of the min-

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utes, for which we cannot make room entire, but will endeavor to give a correct synopsis of the most important points.

The meeting was held in St. Andrews' Hall, a spacious and beautiful room, and well adapted to the purpose. The President, Dr. Mussey, of Cincinnati, called the Association to order at 11 o'clock of the day appointed, and business was at once commenced.

Dr. Thomas Y. Simmons, the chairman of the committee of the South Carolina Medical Association, in a warm and hearty address, welcomed the delegates from other States, and was responded to in a becoming manner by the President. A committee of one from each State was appointed to nominate suitable officers for the ensuing year, and during their retirement to perform this duty, the President delivered an able address on the state of the profession, and the advancement of medical science.

The nominating committee proposed the following gentlemen as suitable candidates for the officers of the Association, and they were forthwith unanimously elected.

Dr. JAMES MOULTRIE, of South Carolina, *President.*
Dr. GEORGE HEYWARD, of Massachusetts; } *Vice Presidents.*
Dr. R. D. ARNOLD, of Georgia;
Dr. B. R. WELFORD, of Virginia;
Dr. J. B. FLINT, of Kentucky;
Dr. U. W. DESAUSSURE, of South Carolina; } *Secretaries.*
Dr. P. C. GOOCH, of Virginia;
Dr. ISAAC HAYS, of Pennsylvania, *Treasurer.*

Dr. Drake, of Cincinnati, called up a resolution which he had introduced at the last meeting, proposing an amendment of the constitution in regard to the privilege of voting among invited and permanent members; it gave rise to considerable discussion, and was finally lost. So this matter remains *in statu quo*— members by invitation are authorised to vote, but permanent members are not.

'Dr. I Hays, the treasurer of the Association, then read the report of the committee of publication, and also the report of the treasurer.

'The subjoined resolutions, appended, were read and adopted:—

'1. *Resolved*, That the assessment for the present year shall be $3.

'2. *Resolved*, That those delegates who pay the assessment shall be entitled to one copy of the transactions for the present year, and that the payment of two dollars, in addition, shall entitle them to two additional copies.

'3. *Resolved*, That permanent members shall be entitled to one copy of the transactions for the present year on the payment of two dollars, and three copies on the payment of five dollars.

'4. *Resolved*, That societies which have been represented in the association shall be entitled to copies for their members on the same terms that copies are furnished to permanent members.

'5. *Resolved*, That permanent members, unless present at the meeting as delegates, shall not be subject to any assessment.

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'6. *Resolved*, That any delegate who is in arrears for his annual assessment shall not be considered as a permanent member.

'7. *Resolved*, That the several committees be requested to bring to the meeting of the Association their reports, correctly and legibly transcribed, and that they be required to hand them to the secretaries as soon as they have been read.

'All which is respectfully submitted.

'ISAAC HAYS,
'D. FRANCIS CONDIE.'

'*Philadelphia, April* 20, 1851.'

Dr. Paul F. Eve, of Augusta, chairman of the standing committee on *Surgery*, read an able report, which was listened to with profound attention.

Dr. Flint, of Buffalo, N.Y., chairman of the committee on *Practical Medicine*, was not present, but forwarded 250 printed copies of his report, which were distributed among the members. The report was accepted, and proves to be a highly creditable production.

At this stage of the proceedings, invitations were handed in requesting the Association to hold its next meeting at the following places, viz.:—Richmond, Va., Washington, D. C., New Orleans, La., and Saint Louis, Mo. After due deliberation, the selection fell upon the city of Richmond.

The committee on *Prize Essays* now read their report, and awarded the prize of *fifty dollars* to Dr. John C. Dalton, of Mass., for his Essay on the *Physiology of the Ovary*. We learn that Dr. Dalton has since been elected to a chair in the Medical College of Buffalo, N.Y.

Dr. Storer, of Boston, chairman of the committee on *Obstetrics*, read a report which gave rise to some disturbance, from a motion offered by Dr. Robertson of Charleston, to strike out certain statistics published by Dr. H. A. Ramsay of Georgia, which the mover said 'were not very reliable.' As Dr. Ramsay was not present, and no one appeared to defend his veracity, the motion was adopted.

We can but think that the action of the Association in this matter was rather hasty; and on reflection, we are somewhat surprised that the editors of the medical journals which contained the publications of Dr. Ramsay, had nothing to say in his behalf. Dr. Ramsay may be guilty of the serious charge brought against him, (concerning which we know nothing whatever, as we are unacquainted with the gentleman,) but no man should be publicly disgraced, as in this instance, without having a fair hearing. From our slight acquaintance with Dr. Robertson, we are quite loth to believe he would bring so serious a charge as this against a professional brother, without good grounds; still we think it would have been much better to have referred the matter to a committee of investigation, and we regret that it was not done.

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Dr. Jones, of North Carolina, offered the following resolution:

'*Resolved*, That all the medical colleges in the United States are hereby earnestly and respectfully requested to hold a convention, through delegates respectively chosen by them, at least once in every six years, to take into consideration the proper method of harmoniously elevating the standard of medical education in the said colleges.'

Somewhat to our surprise, this resolution was voted down by 'a large majority.' We think the proposition a good one, and that, if carried out, it would be productive of good results.

Dr. Reyburn, of Saint Louis, chairman of the committee on *Medical Literature*, read a lengthy and well-written report, which was accepted, and referred to the committee on publications.

'Dr. Dickson moved the following preamble and resolutions, which were seconded by Dr. Lebby, and unanimously adopted without debate:

'Whereas efforts are being made to repeal the law of 1847, which confers protective ranks on the members of the medical department of the army—Therefore,

'*Resolved*, That the American Medical Association views with regret the existence of hostility to the act of Congress, approved February 11, 1847, which confers legal rights and equality with other staff departments on the medical officers of the army, and gives them a position to which the importance and character of the profession entitle them.

'*Resolved*, That copies of these resolutions, with the resolutions of the association passed at its last annual meeting on the same subject, be transmitted to the secretaries of war and of the navy, through the chiefs of the medical department of each service, and to the presiding officers of the senate and house of representatives of the United States.'

Dr. Hooker, of Conn., chairman of the committee on *Medical Education*, read a long and able report, which was listened to with great attention. The reporter discussed in a very critical manner, the subject of '*demonstrative midwifery*,' which has caused some excitement within the last year, on account of a criminal prosecution that occurred in the city of Buffalo. He took the ground that *ocular demonstrative midwifery* was altogether unnecessary, and therefore condemned it. On this point, Dr. Dickson offered the following resolution, which was adopted:

'*Resolved*, That this Association unanimously approve of the opinions expressed in a report of the committee on medical education, in respect to demonstrative midwifery.'

Dr. Stevens, of New York, offered the following resolutions, which were adopted, and referred to the committee of three, to be carried out.

'*Resolved*, That the members of this Association cannot separate without expressing their grateful sense of the hospitalities and nume-

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rous delicate attentions received from their medical brethren of South Carolina, and the citizens of Charleston.

'*Resolved*, That a committee be formed to procure a tablet, with a suitable inscription, commemorative of this meeting and the feeling it has elicited, to be placed at the disposal of the Medical Association of South Carolina.

'*Inscription.*—"This tablet is here placed by the American Medical Association, to commemorate their annual meeting in the city of Charleston in May 1851, and to signalize their gratitude for the extraordinary professional and social enjoyments that accompanied it."'

Dr. F. Ramsey, of Tennessee, offered the following resolution, which was adopted:

'*Resolved*, That the efforts of Dr. Fenner to place on a firm and durable basis, an annual publication embracing medical reports from the whole Southern portion of the Union, merit the commendation of this Association, and should receive solid support from American physicians.'

The report of the committee on the *Medical Sciences* being called for, Dr. Fenner, a member of the committee, presented the report of the chairman, Dr. Bennet Dowler, of New Orleans, which was accepted and referred to the committee on publications. This report, like some of the others, is exclusively the production of the chairman.

The report on *Adulterated Medicines* was read by the Secretary, Dr. Gooch, who expressed some disapprobation on account of its meagerness.

Dr. Davis, of Illinois, read an interesting paper '*On the Influence of certain Diet on the Functions of Respiration and Calorification*,' which called forth a vote of thanks.

The most important business of this session was the change adopted in its future operations. Instead of the regular standing committees heretofore existing, we now have a large number of special committees who are to report on selected topics. The chairmen of these committees are appointed by the Association, and are authorised to associate with themselves two other members of their own choice. The following is a list of the committees, with the names of the chairmen, and the subjects chosen:—

'1. On the Causes of the Tubercular Diathesis—Dr. D. F. Condie, Philadelphia.
'2. On the Blending and Conversion of the Types of Fever—Dr. S. H Dickson, of Charleston, S. C.
'3. On the Mutual Relations of Yellow and Bilious Remittent Fever—Dr. James Jones, of New Orleans
'4. On Epidemic Erysipelas—Dr. John B. Johnston, of St. Louis, Mo.
'5. On Acute and Chronic Diseases of the Neck of the Uterus—Dr. Charles D. Meigs, of Philadelphia.

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'6. On Dengue — Dr. J. P. Jervey, of Charleston, S. C.
'7. On Milk-Sickness (so called) — Dr. Daniel Drake, of Cincinnati.
'8. On the Epidemic Prevalence of Tetanus — Dr. Lopez, of Mobile, Ala.
'9. On Diseases of Parasitic Origin — Dr. George B. Wood, of Philadelphia.
'10. On the Physiological Peculiarities and Diseases of Negroes — Dr. R. D. Arnold, of Savannah, Geo.
'11. On the Action of Water on Lead Pipes, and the Diseases which proceed from it — Dr. Horatio Adams, of Waltham, Mass.
'12. On the Alkaloids which may be Substituted for Quinia — Dr. Jos. Carson, Philadelphia.
'13. On the Permanent Cure of Reducible Hernia — Dr. George Heyward, Boston, Mass.
'14. On Results of Surgical Operations for the Relief of Malignant Diseases — Dr. S. D. Gross, Louisville, Ky.
'15. On the Statistics of the Operation for the Removal of Stone in the Bladder — Dr. James R. Wood, New York.
'16. On Water — its Topical uses in Surgery — Dr. Charles A. Pope, St. Louis, Missouri.
'17. On Sanitary Principles Applicable to the Construction of Dwellings — Dr. Alex. H. Stevens, New York,
'18. On the Toxicological and Medicinal Properties of our Cryptogamic Plants — Dr. Porcher, Charleston, S. C.
'19. On the Agency of the Refrigeration produced through Upward Radiation of Heat, as an Exciting Cause of Disease — Dr. G. Emerson, Philadelphia.
'20. On the Epidemics of New England and New York — Dr. Worthington Hooker, Connecticut.
'21. On the Epidemics of New Jersey, Pennsylvania, Delaware and Maryland — Dr. John L. Atlee, of Lancaster, Penn.
'22. On the Epidemics of Virginia and North Carolina — Dr. Robert W. Haxall, Richmond, Va.
'23. On the Epidemics of Sonth Carolina, Georgia, Florida and Alabama — Dr. Wm. M. Bolling, Montgomery, Ala.
·24. On the Epidemics of Mississippi, Lousiana, Texas and Arkansas Dr. Ed. H. Barton, Louisiana.
'25. On the Epidemics of Tennessee and Kentucky — Dr. Sutton, Georgetown, Ky.
'26. On the Epidemics of Missouri, Illinois, Iowa and Wisconsin — Dr. Thomas Reyburn Missouri.
'27. On the Epidemics of Ohio, Indiana and Michigan — Dr. George Mendenhall, Ohio.

'The following gentlemen were appointed on the Committee for Volunteer Communications, viz., Drs. George Heyward, J. B. S. Jackson, D. H. Storer and Jacob Bigelow, of Boston, and Dr. Usher Parsons of Providence, R. I.

'Signed in behalf of the Committee.

'GEORGE. B. WOOD, *Chairman.*

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We think this change will have a happy effect in calling out the talent of the profession, and will doubtless produce a volume of valuable original matter. We think, however, that the standing committees on Practical Medicine and Medical Literature should have been retained, as a *resumé* of what is done in these departments during the year is generally read with interest, and is valuable for reference.

We may take this occasion to express our grateful acknowledgments for the kind notice taken of our humble labors, as well by the able reporter on medical literature, as by the Association in a body.

The reports read before this meeting were drawn up with much ability, and do honor to their respective authors. We wonder that the volume annually published by this Association is not more eagerly sought for by the profession. It is highly valuable and very cheap. Having taken part in the first organization which led to the establishment of this great Medical Society, we can never cease to feel a deep interest in its success, and can assure our Southern friends that they can promise themselves no higher enjoyment than is to be met with at its annual meetings. The next is to be held in the heart of the 'Old Dominion,'—in a city and State renowned for their cordial and elegant hospitality, and there, if anywhere within this great Union, may the members in attendance expect to enjoy 'the feast of reason and the flow of soul.'

After the highly complimentary resolutions passed by the Association, we deem it useless to say anything more respecting the series of magnificent entertainments given by the leading physicians of Charleston; suffice it to say, they combined every luxury and pleasure that heart could desire—in fact, were but little short of our democratic conception of princely munificence.

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LITERARY NOTICES.

Our grateful acknowledgments are hereby tendered for the following medical journals and pamphlets, which we have received since the publication of our last volume.

The New Orleans Medical and Surgical Journal. Bi-monthly. Edited and published by A. HESTER, M.D. (*In exchange.*)

Hardly any journal in the country contains more original matter than this; and as it relates chiefly to diseases of the South, the Work is worthy the especial attention of Southern physicians. Among the contributors are some of the ablest writers of the south. Dr. Hester is now sole proprietor of this journal, and deserves much credit for his persevering efforts to sustain it. After an arduous struggle of seven years' duration, the Work seems, at length, to be established on a firm and durable basis.

The Charleston Medical Journal and Review. Bi-monthly. Edited by Drs. CAIN & PORCHER. (*In exchange.*)

The Southern Medical and Surgical Journal. Monthly. Edited by I. P. GARVIN, M.D. Augusta, Ga. (*In exchange.*)

The two last-named Works are ably sustained by their editors and contributors, and do honor to the South. They too, as we learn, have had great difficulties to contend with, but are now established on a safe foundation.

The Medical Examiner and Record of Medical Science. Monthly. Edited by Drs. F. GURNEY SMITH & J. B. BIDDLE. Philadelphia. (*In exchange.*)

An able and excellent journal.

New York Journal of Medicine and the Collateral Sciences. Bi-monthly. Edited by S. S. PURPLE, M.D. New York. (*In exchange.*)

This Work abounds in valuable original communications, and its critiques are inferior to none.

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The New York Medical Gazette and Journal of Health. Semi-monthly. Edited by D. M. Reese, M.D. New York. (*In exchange.*)

This is a new journal—commenced weekly, but now semi-monthly. It abounds in medical news and racy critiques. Its editor is one of the best writers in the country.

The Buffalo Medical Journal and Monthly Review of Medical and Surgical Science. Monthly. Edited by Austin Flint, M.D. Buffalo, N.Y. (*In exchange.*)

Dr. Flint is one of the best writers in the profession, and his journal stands deservedly high.

The Western Lancet and Hospital Reporter. Monthly. Edited by Drs. L. M. Lawson & George Mendenhall. Cincinnati. (*In exchange.*)

The North-Western Medical and Surgical Journal. Bi-monthly. Edited by John Evans, M.D. Chicago and Indianopolis. (*In exchange.*)

From the ability and cheapness of the two last-named Works, they certainly must have an extensive circulation.

The Boston Medical and Surgical Journal. Weekly. Edited by J. V. C. Smith, M.D. Boston. (*In exchange.*)

This Work is among the oldest journals now published, and has ever been noted for its useful practical articles and its medical news. The indefatigable editor has been traveling in Europe and the East, for a year past, and has enriched his journal with highly interesting letters from Egypt, Turkey, Greece, Italy, etc.

The Stethoscope; and Virginia Medical Gazette. Monthly. Edited by P. C. Gooch, A.M., M.D. Richmond, Va. (*In exchange.*)

A new Work, very neatly gotten up, and promises to be highly useful.

The British and Foreign Medico-Chirurgical Review, a Quarterly Journal of Practical Medicine and Surgery. Republished in New York, by R. & G. S. Wood. (*In exchange.*)

A Work of the highest rank, and we are pleased to say, extensively circulated in the Southern States.

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The Dublin Quarterly Journal of Medical Science. Dublin. May, 1851. (*In exchange.*)

We have been honored by the reception of this valuable Work from headquarters, and will gladly continue the exchange. The medical faculty of Dublin is not excelled by any in the world, and as this Work contains many of its ablest productions, we would recommend it to all American physicians.

Ranking's Half-Yearly Abstract of the Medical Sciences, No. 2. January to July, 1850. By LINDSAY & BLAKISTON. Philadelphia. (*In exchange.*)

We have been favored with but one number of this valuable Work. It contains the largest amount of medical information for the price, (75 cents a number) that is any where to be found. It should be taken by every physician in the country.

DOCUMENTS OF THE GENERAL BOARD OF HEALTH OF ENGLAND.

1. *Report of the General Board of Health, on the Supply of Water in the Metropolis.*
2. *Report on Quarantine.*
3. *Report of the General Board of Health on the Epidemic Cholera of* 1848 *and* 1849.

All presented to both Houses of Parliament by command of Her Majesty.
(From Mr. CHADWICK, a Member of the Board.)

We return Mr. Chadwick our most grateful acknowledgments for these important and valuable documents. The first extends the length of 325 pages, and furnishes a minute, and, at the same time, comprehensive view of everything that relates to the quality and quantity of water supplied to the city of London. The nature and sources of its various impurities, together with the serious injuries that arise from the defective supply, are pointed out in the most convincing manner, accompanied by the most rational suggestions of correction. Every bearing of the subject, whether upon the health and vitality of the people, or the protection of property from destruction by fire, is plainly presented to view.

The second presents a most philosophical view of the nature and origin of epidemic and contagious diseases, and the value of quarantine. The erroneous opinions of the past and present are ably reviewed, and the Board shows most conclusively that it is far better for governments to expend money in removing the causes and preventing the origin of diseases, than in attempting to limit their progress when once generated. The Board sets its face against all quarantine

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regulations in the following emphatic language: 'It follows that we propose the entire discontinuance of the existing quarantine establishments in this country, and the substitution of sanitary regulations. By such substitution, the most effectual security which the present state of knowledge affords, would be taken against the importation of foreign contagion, the maintenance of infection, and the origin and spread of epidemic disease."

The third report occupies 156 pages, with a number of important diagrams and tables, presenting in the most concise and lucid style all the information that can be desired respecting the introduction, progress, mortality, prevention and treatment of epidemic cholera. These important reports emanate from the distinguished names of Carlisle, Ashley, Edwin Chadwick, and T. Southwood Smith; and it would be well if fifty thousand copies were distributed among the people of these United States, so that they might learn the great lesson that *'the neglect of sanitary measures is the neglect of pecuniary economy, and their adoption not more the duty than the interest of a community.'*

DeBow's Review of the Southern and South-Western States. A monthly industrial and literary journal of commerce, agriculture, manufactures, internal improvements, statistics, home and foreign, etc. (In exchange.)

This spirited journal is truly a treat for every body; whether he reside in the North, South, East or West; whether he be merchant, mechanic, manufacturer, planter, farmer, lawyer, doctor, political economist, scholar or what not. Prof. De Bow is completely devoted to the interests of the South, and is indefatigable in his efforts to promote and sustain its literature.

Quarterly Summary of the Transactions of the College of Physicians of Philadelphia. From November 5, 1850, *to January* 6, 1851, *inclusive.*

Proceedings of the Medical Society of the State of Pennsylvania, at its Annual Session, held in the city of Philadelphia, April, 1850.

Thermal Ventilation, and other Sanitary Improvements, applicable to Public Buildings, and recently adopted at the New York Hospital: A Discourse delivered at the Hospital, February 8, 1851. By JOHN WATSON, M.D. (From the author.)

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An Address delivered before the Suffolk District Medical Society, at its Second Anniversary Meeting: Boston, March 28, 1851. By SAMUEL PARKMAN, M.D., M.M.S.S. (From the author.)

Anniversary Discourse before the New York Academy of Medicine, November 13, 1851. By JOSEPH M. SMITH, M.D. (From the author.)

Additional Observations on Hybridity in Animals, and on some collateral subjects; being a reply to the objections of the Rev. JOHN BACHMAN, D.D. (From the Charleston Medico-Journal and Review). By SAMUEL GEORGE MORTON, M.D. (From the author).

Letter to the Rev. John Bachman, D.D., on the question of Hybridity of Animals, considered in reference to the unity of the Human Species. By SAMUEE GEORGE MORTON, M.D. (From the author).

Minutes of the Proceedings of the Medical Society of South Carolina, at its Second Annual Meeting, held in Raleigh, May, 1851.

Cases of Vesico-Vaginal Fistula, treated by operation. By GEO. HAYWARD, M.D. From the Boston Medical and Surgical Journal. (From the author.)

A Treatise on Congestive Fever. By S. AMES, M.D., of Montgomery, Ala. Read before the Medical Society of Montgomery, December, 1849. Extra. From the New Orleans Medical Journal. (From the author.)

A well written and very able paper.

Introductory Lectures.—We have received these addresses from the following professors, viz.: Charles D. Meigs, of Jefferson Medical College; S. H. Dickson, of the Medical College of South Carolina; John Ware, of the Massachusetts Medical College; Charles Todd Quentard, of the Medical College of Georgia.

Report of the Medical Department of the University of Pennsylvania, for the year 1850. By the Medical Faculty.

Annual Announcement of Sundry Medical Colleges, which will appear on our Advertising sheet.

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BOOKS RECEIVED.

History of Medical Education and Institutions in the United States, from the first settlement of the British Colonies, to the year 1850: With a chapter on the present condition and wants of the Profession, and means necessary for supplying those wants and elevating the character and extending the usefulness of the whole Profession. By N. S. Davis, M.D., Professor of Principles and Practice of Medicine in Rush Medical College, and member of sundry learned Societies. (From the author.)

Dr. Davis' views on medical education are somewhat unique, and do not seem to be generally concurred in, but his book contains much valuable historical information, which should be generally diffused among the profession.

History of Medical Education and Institutions in America. By N. S. Davis, M.D.

1. *Researches upon the Necropolis of New Orleans, with brief allusions to its Vital Statistics.* By Bennet Dowler, M.D., of New Orleans.

2. *Experimental Researches, illustrative of the functional oneness, unity, and diffusion of nervous action; in opposition to the Anatomical assumption of four sets of nerves, etc.* By the same. (From the author.)

These papers were published in the New-Orleans Medical and Surgical Journal. Like all the productions of this able writer, they will be read with interest. He boldly takes ground against some of the leading physiologists of Europe, and although the contest is a very unequal one, whichever is correct will ultimately be sustained.

Observations on certain of the Diseases of Young Children. By Charles D. Meigs, M.D., Professor of Midwifery, etc., in Jefferson Medical College. Philadelphia, etc., pp. 215.

We had the pleasure to receive this Work from the hands of the distinguished author, only a few weeks since, and have not had time to analyse its contents. It treats of some of the most common but important complaints of an interesting class of patients, and from the high character of the author, we doubt not it contains much useful instruction.

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Principal Diseases of the Interior Valley of North America. By DANIEL DRAKE, M.D.

We cannot close this volume without a passing remark on this great Work, although we have not received the usual courtesy from the publishers. As yet only the first volume is out, but the distinguished and indefatigable author is still actively engaged in the undertaking, and although he has now reached the period of life commonly allotted to man, we sincerely wish he may be spared to finish this, the greatest labor of his long and eventful life. From the glance at the first volume, which is all that our pressing engagements have allowed us to take, we have no hesitation in pronouncing this the greatest Work that has ever been executed by any single American physician, and that, when completed, it will embody a larger amount of reliable information respecting the topography, climate and diseases within its sphere, than can be found anywhere else. We sincerely wish the venerable author may reap a golden harvest from his labors, in addition to the undying fame that awaits him in the future.

The History of Louisiana. By CHARLES GAYARRE. In French. (From the author.)

This is a highly valuable Work, and we trust it will soon be translated into the English language, so that it may be extensively read. Mr. Gayarré fills a high station in the government of this State, but still finds leisure for his favorite literary pursuits.

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HISTORY

OF THE

EPIDEMIC YELLOW FEVER,

AT

NEW ORLEANS, LA.

IN 1853.

BY E. D. FENNER, M. D.,

ONE OF THE VISITING PHYSICIANS TO THE NEW ORLEANS CHARITY HOSPITAL; PRESIDENT OF THE LOUISIANA STATE MEDICAL SOCIETY; MEMBER OF THE PHYSICO-MEDICAL SOCIETY OF NEW ORLEANS; MEMBER OF THE AMERICAN MEDICAL ASSOCIATION, Etc,, Etc., Etc.

New-York:
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1854.

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DEDICATION.

TO

MY FELLOW CITIZENS

OF NEW ORLEANS,

This brief, but faithful History of one of the greatest calamities that has ever befallen our devoted City, is most respectfully inscribed, by one who is fully identified with them in personal interest and all the relations of life.

THE AUTHOR.

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HISTORY

OF THE

EPIDEMIC YELLOW FEVER,

AT NEW-ORLEANS, IN 1853.

ONCE more it becomes my painful duty to recount the rise, progress, and mournful ravages of the terrible pestilence, which, since the beginning of the present century, has so often and so severely scourged our devoted city. For ten years past, it has been to me an interesting, though somewhat laborious task, carefully to collect all the important facts and circumstances connected with yellow fever as it prevails in this region, with the view to determining its real nature, the source from which it springs, and the best method of treating it. With the exception of the last two years, the memoranda of which are still on hand, my observations have been published from year to year in successive volumes of the New Orleans Medical and Surgical Journal, and in my two volumes of Southern Medical Reports. I have hitherto confined myself chiefly to statements of *facts and attending circumstances;* indulging but little in *theory*, yet not witholding deductions which appeared to me rational and pointing to the necessity of certain *sanitary measures*, of vital importance to the community. The facts which I have recorded within these ten years, obtained from personal observation and that of most respectable physicians residing here and at Mobile, Natchez Vicksburg, Rodney, Vera Cruz, Galveston, Houston, and Covington, bear forcibly upon all the great questions which have ever agitated the medical profession and the community at large.

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concerning the *true cause and real nature* of yellow fever—whether it be a disease *sui generis*, or only one of the Protæan forms or varieties of *endemic fever* indigenous to southern climes—whether it be of *foreign* or *domestic* origin in the United States—whether it be *contagious* or *non-contagious—transportable or not* in persons or goods from places in this country, where it prevails epidemically, and communicable to persons who reside at distant and altogether different places where this disease was never known to prevail.

But, with deep regret, I must say, in vain have these important facts been laid before a heedless community—facts involving the progress and prosperity of our city, and our pecuniary interests in an eminent degree ; but above all, involving our own lives and the safety of those scarcely less dear to us than life itself. In vain have the *most probable chief causes* of this disease been pointed out, as well as the good results that have followed the removal of such causes in various parts of the world. In vain has this community been informed by many of its philanthropic physicians and through successive reports of its *Grand Juries*, that those causes are to be found in this city from one year's end to another, and perhaps to a greater extent than in any other spot upon the globe. In vain have they been referred to their *Hospitals*, their *Orphan Asylums*, and their *crowded cemeteries* for the indubitable evidences of sickness and death. With stoic indifference they have viewed these appalling scenes and turned a deaf ear to the advice and entreaties of their monitors. Engrossed with the exciting occupations and enjoyments of the winter, they cast not a thought upon the evils that may come upon them in summer. When shown by the reports from their cemeteries that the annual mortality of this city, in proportion to population, *more than doubles* that of any city either in Europe or America, they either disregard the solemn truth or flatly deny it—saying there *must be some mistake*, and calling those who bring to light such unwelcome facts, enemies to the city and traducers of its fair fame.

When informed of the first cases of yellow fever that appear in summer, the newspaper press almost invariably denies the truth of the reports, and, not unfrequently, showers upon the heads of those whose *duty it is* to pronounce upon the character of the prevailing diseases, volumes of abuse and ridicule. If the cases multiply and the signs of the times plainly indicate the approach of an epidemic,

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the able Editors of our valuable daily journals, under what I must pronounce a most erroneous impression of their duty to the public, studiously endeavour to conceal or suppress the true state of affairs. The results of this course are, in the first place, to deter some of our most respectable physicians from saying a word about the first cases of yellow fever they see, on account of the disagreeable notoriety they must incur; and secondly, to induce many persons, who wish to leave the city as soon as yellow fever appears, to remain until they are exposed to imminent danger, for want of correct information. All this is wrong from beginning to end, and I do hope that the awful calamities which have lately befallen us will awaken the citizens of New Orleans to a just sense of their past errors and lead to a reformation that shall redound to the honor, glory, and greatness of this goodly city. The policy hitherto pursued in regard to this matter by our city government, newspaper press and business men generally must be changed *in toto*, before we can hope for deliverance from the evils that beset us. The great subject of *public health* must be set aside and neglected no longer, but should command that serious consideration which its importance deserves. 'Tis vain for us to expect to get clear of such an enemy to our happiness and prosperity as yellow fever by *shutting our eyes* against the facts annually presented to our view, by *repudiating* the disease or denying its existence in our midst, until its frightful ravages gain publicity in spite of us, and call forth the pity and charity of the benevolent throughout the Union. We must enter into a thorough investigation of the origin of yellow fever, and resort to the most efficient measures of relief, cost what it may. Time was, when this disease was unknown here. From the best information I can obtain, New Orleans was in existence *three-quarters of a century* before the first epidemic of this disease prevailed here, and it is only within the present year that it has prevailed over the large plantations within sight of the city. Is it not possible to restore the sanitary condition that existed before this disease prevailed here? Many cities and towns have been severely scourged by yellow fever for successive years, but finally got rid of it.

Let us endeavor to ascertain *how* they got clear of it, and do as they did. If they expelled it by removing all filth and stagnant waters, let us make our city *clean* and *dry*. If they owe their de-

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liverance to *the accumulation of putrifying matters and foul stagnant waters*, I am quite sure that, without any trouble or expense, we could in a short time display the filthiest city upon the face of the earth; which, with *the natural advantages of our damp southern climate*, ought to make us *perfectly secure*. If they were protected from danger by *quarantine*, let us forthwith establish the most rigid quarantine regulations; but, in the name of conscience, let us no longer view with indifference the scenes of death and desolation so often witnessed, or go on as we have been going, under the hope of making enough in winter to enable us to run away from here in summer.

So indifferent had the community become to the sanitary condition of the city within the last two years, that they had no Board of Health, and were depending on a general street commissioner, with an insufficient corps of scavengers, to cleanse the city and remove all local causes of disease. How imperfectly these important duties were performed will appear in the course of my narrative. It affords me much pleasure to say, however, that the fatal ravages of the late epidemic, deplorable as they were, seem likely to be productive of the most beneficial results in future. The representatives of the people in the city government seem at last to be aroused from their lethargy in respect to the important matter of the *public health*, and are at this moment engaged in organizing an efficient system of *sanitary police*. A sanitary commission, consisting of five gentlemen of the first respectability in point of talent, has been appointed to obtain all the facts within their reach relative to the origin and spread of the late epidemic—to examine thoroughly the sanitary condition of the city—to draw up a system of hygienic measures, and to report the results of their labors as soon as practicable, for the consideration of the Common Council. This commission is at present actively engaged in the performance of the important duties confided to it, and will, doubtless, soon publish a volume of facts and suggestions of inestimable value. It has afforded me pleasure to give it all the aid in my power by furnishing such facts as I had either observed myself or obtained from reliable sources.

With these preliminary remarks, which I trust the reader will not deem inappropriate to the occasion, I shall now proceed with my history of the epidemic, and endeavor to give, as briefly as pos-

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sible, many of the most material facts in connexion with it; such as the meteorology of the year, the sanitary condition of the city, the commencement, progress, extent, peculiarities, mortality, treatment, &c., of yellow fever, with a statement of the other types of fever that prevailed at the same time. My observations will be comprised within the period of time from the 1st of January to the 1st of November, 1853.

METEOROLOGY.

I am indebted to my esteemed friend, Dr. E. H. Barton, of this city, for the following abstract from his Register, which is doubtless kept with as much care and minuteness as any in the Union. As Dr. Barton is a member of the Sanitary Commission, it is hoped that his full Register for the year will be published among its documents.

Abstract of a Meteorological Register for the city of New Orleans:

1853.

JANUARY.	Maximum.	Minimum.	Average.
Barometer,	30.77	29.98	30.313
Thermometer,	71	33½	47.20
Dew Point,	59	30.8	44.93
Rain—days,	4		
" —nights,	4		
" Quantity,	3.190 inches.		

Winds, Northerly, 22½ days, Southerly, 2¾ days.

FEBRUARY.	Maximum.	Minimum.	Average.
Barometer,	30.53	29.69	30.238
Thermometer,	77	36.50	56.05
Dew Point,	68	31	50.48
Rain—days,	5		
" —nights,	4		
" Quantity,	4.600		

Winds, Southerly, 12½ days, Northerly, 9¾ days.

MARCH,	Maximum.	Minimum.	Average.
Barometer,	30.67	29.90	30.262
Thermometer,	78	43	62.43

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Dew Point,	71	36.8	56.17
Rain—days,	8		
" —nights,	4		
" Quantity,	6.870 inches.		

Winds, Northerly, 15 days, Southerly 12½ days.

April.	Maximum.	Minimum.	Average.
Barometer,	30.44	30.11	30.260
Thermometer,	85	50	70.39
Dew Point,	71.5	41.5	66.60
Rain—days,	2		
" —nights,	0		
" Quantity,	1.848 inches.		

Winds, Southerly 15½ days, Northerly 8½ days.

May.	Maximum.	Minimum.	Average.
Barometer,	30.38	30.05	30.127
Thermometer,	88	60	73.32
Dew Point.	74.7	52.8	67.11
Rain—days,	5		
" —nights,	0		
" Quantity,	3.840 inches.		

Winds, Southerly 12½ days, Northerly 9½ days.

June.	Maximum.	Minimum.	Average.
Barometer,	30.37	30.12	30.256
Thermometer,	91	70	80.73
Dew Point,	80.9	66.3	73.20
Rain—days,	11		
" —nights	0		
" Quantity,	1.757 inches.		

Winds, Southerly 11 days, Northerly 9½ days.

July.	Maximum.	Minimum.	Average.
Barometer,	30.37 in.	30.11 in.	30.255 in.
Thermometer,	89°	71°	79.88°
Dew Point,	80.9°	66.5°	72.13°
Rain—days,	18		
" —nights,	4		
" Quantity,	11.708 inches.		

Winds, Southerly 11 days, Northerly 9½ days.

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August.	Maximum.	Minimum.	Average.
Barometer,	30.29 in.	30.04 in.	30.194 in.
Thermometer,	19°	72°	81°
Dew Point	79.4°	66.2°	78.08°
Rain—days,	11		
" —nights,	0		
" Quantity,	6.34 inches.		

Winds, Northerly $7\frac{3}{4}$, Southerly $2\frac{1}{4}$, East 9, West 5.

September.	Maximum.	Minimum.	Average.
Barometer,	33.33 in.	30.02 in.	30.191 in.
Thermometer,	86°	60°	76.23°
Dew Point,	78.3°	50.3°	70.93°
Rain—days,	14		
" —Nights,	3		
" Quantity,	5.70 inches.		

Winds, Northerly $4\frac{1}{4}$ days, Southerly 3, East 12.

The calculations for the month of October have not yet been completed.

From this abstract we may learn that the winter was quite cool and dry, but without any very cold weather. I did not see any ice in the open gutters of the city, nor was the ground frozen in the heart of the city.

The spring was quite variable; alternately hot and cold, and rather dry. Vegetation *remarkably backward.*

From the 12th to the 20th of May the days were *very hot*, whilst the nights were so cold as to render one or two blankets necessary to comfort. The thermometer rose to 88°, which is within 1° of the highest point in July. On the 21st there was a sudden change, the weather becoming quite cold. This continued for two or three days; and it was about this time, as well as I have been able to ascertain, that the few cases of yellow fever appeared in the city.

The summer was hot, though not unusually so. It will be seen that the *average* of the thermometer was above 79°, which some contend is necessary for the prevalence of yellow fever as an epidemic. The summer was likewise *quite wet*, though not as much so as others in which there was not so much yellow fever. Before entering upon the rise and progress of the epidemic, let us take a glance at the

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SANITARY CONDITION OF THE CITY.

In the winter and spring, when the weather was comparatively dry, the streets and gutters were in as good condition as is ever observed in this city, at all times bad enough; but when summer came, with its scorching sun and frequent rains, the streets, alleys, gutters, batture, privies, vacant lots, &c., were neglected to such an extent by the Street Commissioner, whose duty it is to have them kept in good order, as to call down upon him the indignation of the people and the bitter denunciations of the press. The following is a specimen of these notices, a great variety of which might be clipped from the different newspapers of the day if we chose :—

A MATTER OF SELF-PRESERVATION.

(*From the Delta, June* 22, 1853).

"Worse and worse. The late rain has only stirred up the sinks. Filth, dirt, decayed cabbage-stalks, dead dogs, and worse, are the fascinating ornaments of our thoroughfares, at the very time when all the energies of our authorities should be devoted to the preservation of the health of our citizens, which can be secured only by sanitary improvements. The nuisance is becoming altogether insupportable, and everybody suggests that 'something' must be done, and, day after day, that important 'something' ends in nothing.

"It is quite useless to pelt any more editorial pellets at the Street Commissioner, as he cannot be aroused from his apathy. If the giants of the Catskill mountains were playing bowls within earshot of him, our official Rip Van Winkle would not hear the rumbling thunder. So, let him rest. R. I. P. The responsibility of preserving our streets in good condition does not lie on him—it belongs more properly to the City Council. We have appointed a very large number of individuals, interested in aldermanic honors, to make our laws and act as guardians of our safety; and if they will not do so, they might have the candor to inform us of the fact, and let us look out for more energetic officers. We are supposed to be honored by the presence in our midst of imposing organizations, called Streets and Landings Committees, which are presided over by very agreeable chairmen; but we give the fact as a matter of hearsay merely, having no reason to be personally cognizant of it. Their presence assuredly does little good for the community.

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"A friend at our elbow mentions a plan by which our city can be put in proper order without aldermanic interference at all. Eureka! Let us have a mass meeting of the citizens on the subject, for practical work, and not for the passing of mere resolutions. Let committees be appointed—one to take charge of the fire-plugs, another to go to the Water Works and see that the pumps are in order, and a third to open the sluices of the river, and let the Mississippi perform the cleansing work. The Water-Works department is the most important of all, and the gentlemen placed on the committee to look after it should be energetic and intelligent. This may appear like taking the law into our own hands, but as a *dernier resort*, a matter of self-preservation, we can see no real objection to it. When that portion of our duties is completed, we will call in the assistance of the Rev. Mr. Hanson to decide, 'have we a Street Commissioner amongst us?'

At all events, a public meeting should be held to take some measures to protect New Orleans against an epidemic which *must* come if our streets continue in their present condition."

The following extract from the same paper illustrates even so serious a subject as this in a humorous manner, and is really too rich to be lost:—

ANTI-YELLOW FEVER.

(*From the Delta, June* 22, 1853).

[COMMUNICATED.

EDS. DELTA—I wish to relate to you a very strange affair which happened to me a few evenings since:

I had driven to the Lake with a friend, and becoming wearied of the place, and he being engaged and likely to stay some time longer, I concluded to walk at my leisure towards town, until he caught up with me with the buggy.

It was twilight, and as I walked slowly, musing over the past, and imagining the future of the great city before me, I saw just ahead, seated upon a stump by the side of the road, one of the queerest little figures you can conceive of. His back was towards me, and he was bent down, very busily engaged at something. As I came to his side I saw that he was sharpening a scythe.

The appearance and occupation of the little old gentleman were so strange, that I stopped to examine him more thoroughly. He

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had on an old yellow coat, quite voluminous in the body, but with very short sleeves. His trowsers were of the thunder-and-lightning pattern, well shrunk up, and short enough to please the veriest dandy in town. His shirt had a large collar, but was without plaits in the bosom. In fine, his clothes were of antiquated material and cut, quite clean, but neither ironed nor starched.

But what attracted my attention most was his face. His features were very small, pinched and wrinkled, something like old and rumpled parchment. His sharp nose, the quick movements of his bony hands, and the twisting of his puckered mouth as he worked with his hone, denoted nervousness.

At last he got through his job, and passing his finger over the edge to try its keenness, gave a grunt of satisfaction, and looking up, his keen ferret-eyes looking full into mine, he ejaculated—"Ah ha, is that you?" with such suddenness and sharpness, that I was quite startled.

"Dull times. But that's nice, isn't it?" said he, snuffing with great satisfaction the foul wind coming from the direction of the city.

I differed with him, and received for my pains a sharp humph! accompanied with a look of contempt.

"Why," said he, "it's the very thing, and it will be better than that in a few days."

Thinking the old gentleman a little cracked, I ventured to ask him what he was going to do with his scythe.

"Going to work," said he, getting off the stump and stretching himself.

"But there's no grass for you to mow down here."

"No," said he, "I am going into the city to work."

"But there is no grass in the city either," I suggested.

"Oh, plenty, plenty," said he with a chuckle. "Plenty of my sort of grass; men, sir, men. All flesh is grass, you know. Eh?"

"The Devil!" I blustered out in my astonishment, for I seldom use so strong language.

"No, sir, not the Devil, either; only a friend of his—an old friend. In fact, sir, some people say he is my father. Don't speak disrespectfully of my respected and venerable ancestor, I beg of you," said he, looking askance at me.

"You are Death, then," I tremblingly said, half interrogatively, half affirmatively.

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"Yes, sir," said he, evidently enjoying my fright. "Yes, sir, at your service."

"Very much obliged," said I, thinking it best to appear brave; "but I have no present need for your services."

"No, of course not," said he, with a little severity in his tone. "That is the usual answer. I did not suppose you had any use for me;" and he muttered something about jackanapes, and he wouldn't have asked me, and so on.

"Well," said the old gentleman, after musing awhile with his chin resting on the handle of his scythe, "well, isn't it a shame?"

I did not understand what he was alluding to. It was evident his mind had got into a new channel; so I asked, "Isn't what a shame?"

"Ain't you astonished at my personal appearance?" said he, looking himself over with evident pleasure; "you thought I was a naked skeleton. Come, now, didn't you? Speak the truth and shame the ——, and soforth, ahem? Yes, they pictured me as a skeleton, the impertinent rascals, a long time ago, and I have never been able to stop the burlesque. I killed the fellows, sir, but the Press is a great disseminator of falsehood." And the old gentleman rested his chin on his scythe handle again, and muttering, "Never mind, what I have lost my respectable father has gained, and it's all in the family"—lapsed into the musing.

"Why do you come to New Orleans this summer?" said I, breaking the silence; "it has been so long since you were here that they don't expect you."

"Young man," said Death, solemnly looking up, "don't talk so like a gump. I do just as you do—follow my nose; and if they don't expect me, more fools they. I like variety, and have an eye to future trade, so I didn't intend coming to New Orleans this summer. I was going North with the other fashionables; but your City Council have broken into my arrangements, and the people will have to suffer."

"But," said I, remonstrating, "how have the City Council broken into your arrangements? And you are not going to make the people suffer for what they have done? Surely they alone should bear it."

"I told you just now," said he, in a very positive manner, "that I follow my nose. If men will live in filth, will make a pest-house

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for themselves, *que voulez vous, mon cher ?* I must act naturally. As for making the people suffer for the acts of their representatives, I do not see any wrong in that. All of us act upon that principle. But as for killing the City Council, there is no use of my troubling myself."

And here Death put up his hand to his mouth, and throwing his head back, gave me a leer, and imitated drinking out of a bottle. Then he broke out into the most outrageous screeching laughter.

" Why, sir," said he, as soon as he had recovered from a fit of coughing, brought on by his cachinnations, " I have heard some envious fellows say that the reason why the Council did not make their subs let the water flow through the gutters was, that they are interested in lots in the swamp, and are afraid they might be flooded. I have heard others say that they were so anxiously electioneering for the next Council, that they had neither time nor disposition to look after the Street Commissioners. Others say that since the city has been consolidated, they are not competent to attend to their other huge labors, let alone the care of gutters and sinks."

" Well, what do you think about it ?" said I.

" What do I think ? I think it is a little of all these reasons, and a few more besides—one of which is, that they are a careless set of fellows."

I do not wish to detail to you, Mr. Editor, all the conversation we had, though he told me some very curious things. He told me, at parting, that he wished the Council would do their duty, and let him go North, as he had no disposition to stay here. I was a little offended several times at the disrespectful manner in which he spoke of our council ; but, as he said, *que voulez vous, mon cher ?* It was the truth, and I had to admit it.

ANTI-YELLOW FEVER.

The *Picayune*, *Crescent*, *Bulletin*, and other papers all called attention to the filthy state of the streets.

Suffice it to say the sanitary condition of the city was *most miserable*. Indeed it was so bad that if it had given rise to *Egyptian Plague* instead of yellow fever, it ought not to have surprised any one who was fully aware of its whole extent. After this account of our sanitary condition, it will doubtless appear strange to the

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distant reader, that the citizens of New Orleans should look *abroad* instead of *at home* for the origin of yellow fever.

We will now proceed with the rise and progress of the epidemic, and give as many of the attendant circumstances and facts as we were able to ascertain from careful inquiry at the time.

COMMENCEMENT OF THE EPIDEMIC.

The very first case of *black vomit* that occurred, happened in one of my wards, at the Charity Hospital, on the 23th of May; and, although so very early in the season, it excited my apprehensions and caused me to inquire whether anything like yellow fever had been seen by others. On the same day I found another case in my wards that bore a strong resemblance to yellow fever. I then commenced a scrutinizing investigation; being well aware that if the facts and circumstances were not *then* ascertained, it would be vain to search for them after the lapse of even a few months. Wherever *rumor* pointed to the existence of a case of yellow fever or any thing like it, I at once repaired in person to the spot, or sought the attending physician for the purpose of getting the most authentic information. I shall now proceed to give *the first cases*, somewhat in the order of their occurrence *as to date*, and state all the attendant circumstances as far as I could ascertain them.

The disease made its first appearance among the crew of the ship "Augusta," which arrived here *direct from Bremen*, on the 17th day of May, and took position at the foot of Josephine-street, in the fourth district. On inquiry, I learned that this ship brought over 230 European emigrants, who enjoyed good health on the voyage; having only lost two children, which died of Diarrhœa. The vessel was out 52 days, passed on the south of Cuba, but did not approach nearer than 35 or 40 miles of that island. The emigrants arrived here in good health, remained but one day, and then proceeded up to the West. The ship Augusta was brought up from the mouth of the river by the same tow-boat that brought up the "Camboden Castle," a British ship, direct from Kingston, Jamaica. On the passage up the river there was free communication between the two ships across the tow-boat.

Having heard that there was a great deal of Yellow Fever at Kingston, and that the "Camboden Castle" had there lost her captain and several of her crew with that disease, I took occasion

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to call on the consignee, in company with Dr. Dalton. We there had the good fortune to meet with the captain of the vessel, who was just clearing her for departure, and politely gave us the following information relative to his vessel and Yellow Fever.

Memorandum of Ship "Camboden Castle."

Captain Chaplin of the ship "*Camboden Castle*" says he entered on duty as captain of this vessel at Kingston, Jamaica, on the 1st of May last, the late captain, McDonald, having a short time previously died there of *Delirium Tremens*, at *private lodgings*,—says there was a great deal of Yellow Fever at that time among the shipping at Kingston, and the Camboden Castle had lost seven of her crew with that disease. This vessel had been in that port six or eight weeks—was last from Newport, Wales. Says he obtained seven new sailors to supply the places of those who had died—they were English and American, and he thinks they were unacclimated, though he cannot assert this positively. He sailed from Kingston, *in ballast*, for New Orleans, on the 2d day of May. Says that before leaving Kingston his vessel was *thoroughly cleansed* and *well sprinkled with chloride of lime*, to guard against the danger of sickness at sea. Says he arrived at the Balize on the 16th of May, and at New Orleans on the 17th, took position at Post 27, (which is in the upper part of the 1st District, nearly opposite Robin street.) The ship "*Augusta*" was brought up the river by the same tow-boat that brought the "*C. Castle*," one on each side, and there was free communication between the two ships, across the tow-boat. Captain Chaplin says *there has been no case of fever on his vessel since he left Kingston, either at sea or since he has been here.* He is now loaded with cotton and will leave this evening.

Given June the 8th, 1853.

This is all the connexion that can be traced between the people on these two ships. After arriving at the city, they took position about *half a mile apart.* I shall have occasion to refer again to the *Camboden Castle* when speaking of some cases of yellow fever that occurred in her immediate neighbourhood. I am indebted to Dr. Schuppert, the attending physician of the *Augusta*, and one of the visiting physicians to the Charity Hospital, for the following memoranda :—

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CASE 1—On the 23d of May, Dr. Schuppert was called on board the ship *Augusta*, to see G. S——, a sailor, aged 21, whom he found laboring under symptoms which he supposed indicated gastro-duodinitis—skin hot and dry, pulse 100, violent headache, pains in the back and limbs, tongue coated, breath fœtid, nausea and vomiting of bilious matters. On the fifth day his skin and eyes turned quite yellow. He recovered, and was discharged on the fourteenth day.

N.B. It will be shown presently that the first case that entered the Charity Hospital must have been attacked on the same day of this.

CASE 2—On the 25th of May, another sailor on the same ship was attacked with symptoms similar to the first, though more violent. He died on the 30th in a state of delirium. Soon after death the body turned yellow, and there were ecchymoses in the dependent parts. No hemorrhage before death. No *post mortem* examination allowed.

N.B. It will presently be shown that another case, about half a mile off, and having no connection, was attacked on the same day as this.

CASES 3 and 4.—On the 27th of May, two more sailors were attacked on the same ship, and with the same symptoms. One of them recovered; the other, G. Woetle, was sent to the Charity Hospital, and died on the 30th of May. He did not throw up black vomit before death. I witnessed the *post mortem* examination of this case. The body was yellow; lower parts livid. The stomach contained about two ounces of *black vomit*.

CASE 5—H. Bruntz, aged 21, on the same ship, *Augusta*, was attacked on the 30th May. Had pains in the head, back, legs and epigastrium, but without nausea or vomiting; pulse full and strong, face and eyes injected, eyes shining and prominent. On the third day the eyes began to turn yellow. On the fourth day he was carried to the Charity Hospital, where he died on the evening of the 7th June. *Autopsy* on the morning of the 8th. The body was yellow; stomach contained about two ounces of *black vomit* and a small worm; liver of a bronze color, parts of it yellow.

There were other cases on board the ship *Augusta*, but these are the only notes furnished of them by Dr. Schuppert. None of the cases threw up black vomit before death; but, as has been shown, this fluid was found in all the cases examined after death. There was much difference of opinion among the physicians who saw these cases and witnessed the autopsies; but for myself, taking all things

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into consideration, the unacclimated subjects, the symptoms presented, the *post mortem* appearances, and the continuance of the disease in that part of the city, I expressed the opinion that it was *yellow fever*.

Having thus disposed of the cases on board the *Augusta*, let us now proceed to the next cases that appeared, and see what connection may have existed between them. I am again indebted to Dr. Schuppert for the following notes of the next earliest case to those on the *Augusta:*

CASE 6—W. K., a butcher, aged 26, had lived in New Orleans *one year;* resided on Chipewa street, fourth district, *three squares from the river and eleven squares above the ship Augusta;* had no connection with this ship that could be ascertained; was taken sick on the 25th of May with high fever, severe pains in the head, back and limbs, great thirst, tongue coated, costiveness, &c. &c. Dr. S. had him copiously bled, and ordered an active cathartic. On the following day petechiæ appeared over the whole body, but chiefly on the extremities, hemorrhage from the nose and gums, bowels torpid, skin and eyes slightly yellowish. Croton oil and strong enemata had to be used before the bowels could be moved. When they were opened, the evacuations were dark and very offensive. At the same time he vomited a large quantity of *black matters*. The bleeding from the gums continued for several days, and the skin became quite yellow. The hemorrhage and petechiæ gradually disappeared, and he was discharged cured on the twelfth day.

REMARKS—It may be doubted by some whether this was really a case of yellow fever, but it must be admitted that it presented some of the characteristic symptoms of that type of fever. Supposing such a case were seen in the midst of an epidemic, would any one hesitate about calling it *yellow fever?* The *first cases* that appear are generally more or less defective in what are considered *characteristic symptoms*, and hence the doubts and disputes that so often arise. Their true character is finally determined in a great degree by what follows.

CHARITY HOSPITAL CASES.

I come now to the first cases that appeared at the Charity Hospital, and will give their origin and locality as well as I could ascertain them.

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CASE 7.—James McGuigan, an Irishman, aged twenty-six years, was admitted into the Hospital on the 27th of May: said he had been sick four days: was last from Liverpool. He was taken to one of my wards, but after I had paid my morning visit and left. At noon, the assistant house surgeon, Dr. Canter, prescribed for him, thinking it a case of *bilious fever*, as he afterwards told me. Dr. C. saw him again in the evening, and did not then suspect he had *Yellow Fever*, nor did he think him dangerously sick. In the course of the night he became delirious, and early on the following morning it was discovered that he was throwing up *Black Vomit* freely, and died about six o'clock. Having been told these facts at my morning visit of the 28th, after finishing my prescriptions, I proceeded to the *dead-house*, for the purpose of making a *post mortem* examination. Drs. W. Stone, Choppin, McGibbon, and a number of others, were present.

Autopsy, four hours after death.—Body muscular and rigid; face and neck slightly yellow; lower parts of neck and body livid. *Lungs* dark colored, but sound. *Liver* mottled; partly the color of mustard, and other portions like nutmeg. Gall-bladder nearly empty. *Stomach* distended with gas; contained, also, about four ounces of *Black Vomit*, like coffee-grounds; mucous membrane thickened and soft. *Intestines* contained dark pultaceous matters. *Kidneys and Spleen* normal. *Bladder* contained urine. *Brain* greatly engorged—considerable effusion of serum under the membranes and in the ventricles.

No one who witnessed this examination expressed any doubt at the time that it was a case of *Yellow Fever*, and I so marked the ticket, but I understood that some doubts were afterwards expressed.

Let us now look to the previous history of this case, to ascertain which correctly has cost me a great deal of trouble. When he first presented himself for admission into the hospital, his case attracted so little attention, that no special inquiry was made about him. He reported himself to the clerk as having been in the City "one week," and last from Liverpool, but did not say on what vessel he had come. The clerk of the hospital having some reason to suspect that he came on the ship *Northampton*, I at once sent to the Custom-House for the purpose of examining her list of passengers. The name of McGuigan was not found amongst them, and I there-

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fore concluded he did not come over on that vessel. At that time I inquired for him in all quarters, but in vain. At length, however, the *Sanitary Commission* was appointed to investigate the origin of the epidemic, and before it went Mr. Parshley, a stevedore, who professed to know all about McGuigan, and gave quite a plausible account of his case. He said that McG. did come over on the ship Northampton, and that he became personally acquainted with him whilst engaged in discharging that vessel—he knew when he was taken sick and died. In short, he told the Commission quite a marvelous tale about the bad sanitary condition of the Northampton at the time he discharged her. I had some reason to doubt the accuracy of this story, but, on application to the consignees, I was gratified to learn that the Northampton was daily expected back to the City. She arrived here on the 11th of November, and on the 12th I obtained from the Captain (Reed) the following memoranda of his voyage to this port last Spring.

Captain Reed says, that on his voyage from Liverpool to New Orleans, last spring, he brought three hundred and fourteen emigrant passengers, and arrived here on the 10th of May—that he passed to the North of Cuba, not nearer than fifty miles, and having fine winds, he passed along there quite rapidly: that there was not much sickness on board; there were six deaths, four children and two adults; the former died of bowel complaints: one of the adults from hemorrhage of the nose: says the emigrants all left his ship within three days after arriving here. Captain R. says his ship was in better order, as to cleanliness, when he arrived here than most vessels: that on the voyage she was swept every day, washed three times a week, and fumigated twice a week with burning tar: says there was no occasion to use the two rooms called "*the Hospital*," as such, and they were filled with spare rigging, stores, &c.: says he left here for Liverpool with a load of cotton, on the 14th of June: that during his entire stay here he had but one case of fever on board his ship, and that was a boy, who was attacked on the 10th of June, and was attended by Drs. Austin and Thorp, who pronounced the case *Yellow Fever*. He recovered: that after leaving here on the 14th of June, his mate was attacked with Yellow Fever, and died on the 18th. The Captain was attacked on the 20th, but very lightly, and was never confined to bed—says he had had Yellow Fever before in Havana: says he recollects the man

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James McGuigan; that he came over with him in May last as passenger, steward or cook, and was numbered among the crew of the vessel: says he left the ship with the passengers, but thinks he went into the employ of Mr. Parshley, and was engaged in discharging her when he was taken with Yellow Fever—heard of his death before he left in June.

Thus we have a full and minute account of James McGuigan, from beginning to end. From his own account, he must have been attacked on the very day that the first case occurred on board the ship Augusta. The two vessels laid not more than a hundred yards apart. McGuigan had been in the City one week the longest, but I do not think there can be much doubt that both of these cases, the first that occurred, contracted their disease in the locality where they were placed, and from the same remote cause.

The second case that appeared at the Charity Hospital was G. Woetle, from the ship *Augusta*, and has been given already. He died on the 30th May, and black vomit was found in his stomach after death.

I shall here introduce two cases that occurred on *Gormby's Basin*, a filthy pond situated in the *upper and back part of the City*, and were attended by Dr. M. M. Dowler. A number of streets in the fourth district, or Lafayette, are drained into this basin, and there is a canal leading from it to the Swamp in the rear. The quarter is a *very filthy one*, unpaved, inhabited mostly by poor people, and having in it a number of soap factories.

DR. DOWLER'S CASES.

1. Johanes Kaien, a German, had lived in the city about twelve months—resided on Gormby's Basin—was employed getting shingles in *the Swamp*, where he went out to work very early in the morning and came in late in the evening: *never went to the shipping*, and was a temperate man. Was taken sick on the 29th of May, an died with *black vomit* on the 2d of June.

2. Kaien's wife was attacked on the day after he died, and was buried the eighth day afterwards.

Dr. Dowler, an experienced and highly intelligent physician, has no hesitation in pronouncing these cases *Yellow Fever*. He communicated them to the Sanitary Commission, who have kindly favored me with the notes.

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From the same source I learn that the next cases that occurred in this neighborhood were on the 10th and 22d of July. As appropriate in date, I will here insert the following note:

YELLOW FEVER ON BOARD SHIP "NIAGARA."

I am indebted to Mr. John O. Woodruff, Ship Agent on Magazine Street, for the following facts, which were furnished by his clerk, Mr. Moulton, on the 7th of July, 1853:

"The American ship 'Niagara' arrived here on the 30th of April, direct from New York: took position first at Post No. 3, near the foot of St. Joseph Street. Afterwards moved up to Post 26, where she was laden with cotton, and left for Liverpool on the 4th of June. *Had no sickness up to this time.* On the morning of the 5th she was at the mouth of the river, where she was detained two days getting over the bar.

"On the morning of the 8th she got outside, and the Captain, Livermore, telegraphed Mr. Woodruff that 'he was quite sick and had a doctor to see him.' In the evening Mr. W. replied by telegraph, that if he was much sick he had better return to the city, and let another Master be sent to take charge of the ship. This message was not received, and the ship set sail. The next we hear of this vessel was through one that went into Galveston, the Captain of which reported that he had spoken the ship Niagara, and was informed that '*the Captain had died of Yellow Fever on the 10th of June, and two men on the 17th; one more case on board.*' This was about the 30th of June. Heard nothing of her since."

N. B.—It must be remembered that the ship laid in the immediate vicinity of the "Camboden Castle," "Saxson," and "Harvest Queen."

We will now proceed with the cases at the Charity Hospital.

CASE 8th.—John Allen, a Scotchman, aged 24: had resided in the city two years, with the exception of two months last summer spent on a trip to Boston. Never had Yellow Fever: was admitted into Ward 17 on the 4th of June, then sick seven days, and was discharged cured on the 12th. This young man was in one of my wards, and I had no hesitation in pronouncing the case Yellow Fever the first time I saw him. He was in an advanced stage of the disease, (eighth day,) and presented the following symptoms:—His skin was of a muddy, yellowish hue, hot and perspiring; eyes

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yellow; tongue natural; gums engorged and bleeding; head hot and painful; pulse sixty; tenderness over the epigastrium; bowels constipated; intellect somewhat clouded and confused; great thirst. He had been treated by Dr. Benedict before coming to the Hospital, and had been cupped and purged. I had a blister applied over the stomach, and gave him but little medicine, but had him carefully nursed. He recuperated slowly, and was discharged on the 12th, as before stated.

I learn from Dr. Benedict that this young man slept at No. 17 Religious Street, but worked on the Levee. He told me he was engaged for nine days, immediately before he was taken sick, in loading the ship "*Harvest Queen*" with cotton. This ship laid at Post 26, nearly opposite Robin Street, in the upper part of the first district, and left here for Liverpool about the 31st of May.

P. S.—Nov. 18th.—I learn from Dr. Benedict that Allen is still living, and has had no other attack of Yellow Fever this summer.

The ship "Harvest Queen" laid very near the "Camboden Castle," but Allen said he had not been on board of the latter vessel. At first he gave a somewhat different statement, when his mind was confused, but when entirely relieved he stated as above.

Case 9.—Michael Mahoney, Irish laborer, aged 16, from Liverpool, four weeks on the ship "*Saxson;*" admitted into hospital, Ward 19, Dr. Haile, June 6th: then sick three days; died on the 7th: body turned yellow; large quantity of *black vomit*, with sediment like coffee-grounds, in the stomach; Liver yellowish. This young man had not been able to find employment in the city, and was allowed to sleep on board the Saxson every night.

I called on the consignee of the ship Saxson, Mr. Giffney, and ascertained the following facts:—"The ship Saxon, Captain Crosby, from Liverpool, *direct*, arrived at New Orleans on the 10th of May, after a long passage, brought Irish emigrants, took position at Post 27, in the immediate vicinity of the Camboden Castle. Has had no sickness on board since the vessel arrived here, excepting the case of the boy Mahoney."

Case 10.—Thomas Hart, a robust young man, had lived in New Orleans eighteen months, entered the hospital, Ward 19, (Dr. Haile's,) on the 5th of June, then sick four days; died on the 8th, (morning.)

Previous history.—This man had been working on the Levee,

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mostly in the fourth district, and was much exposed to the sun; his residence was in a filthy quarter.

Symptoms.—Fever, headache, and pain in the abdomen, difficulty in passing urine, eyes injected, slight nausea, anorexia, gums swollen and red, skin hot, leaving a yellowish tinge when pressed with the finger, sense of fullness and uneasiness in the epigastrium, bowels costive, very restless, great thirst, &c. On the second day he was no better. On the third day he was much worse. He now presented slight hemorrhage from the mouth and nose, eyes yellow, complained of intense pain in the hypochondriac region, hiccup in the evening, at night stupor, and death at 2 o'clock, A. M.

Autopsy at 9 o'clock, seven hours after death. *External appearance.* Body yellow and rigid, lower parts livid. *Stomach* contained about an ounce of reddish fluid, mucous membrane *very highly engorged* and corrugated. *Liver* of mustard color, full and plump. Gall-bladder contained dark green bile; mucous membrane of small intestines engorged; large intestines normal. *Brain* highly engorged, not much effusion under the membranes. *Kidneys* large and soft. Bladder contained four ounces of urine. *Spleen* normal. *Lungs* much engorged; upper and posterior portion of right lung found hepatized.

Remarks on Case 10.—The foregoing notes were kindly furnished by Mr. Taney, the student of the Ward. I did not witness the examination of the lungs, but saw the diseased one on the morning afterwards. It was then greatly disorganised.

I understood that doubts were expressed as to the correctness of the diagnosis in this case, and that it was pronounced a case of *Pneumonia.* I must continue to *think* that the disease was *Yellow Fever*, and this diagnosis is fully sustained by the symptoms and facts that have been presented. I do not deny that a portion of lung was found hepatized seven hours after death, but, to my mind, it is not unreasonable to suppose that such a condition might have been the effect of *hypostasis*, the patient having *died slowly*, and *seven hours* having elapsed before the Autopsy was made. One thing is certain; there were none of the usual signs of pneumonia observed before death, and no one suspected that disease in the case before us. But, admitting that there was pneumonia, I should look upon it as an *intercurrent affection*, which is quite common in idiopathic fevers. I have dwelt particularly on this case, because I heard it was pointed out, by those who denied the existence of Yellow Fever

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in the city, as a specimen of the *blunders* committed by those who contended *there was*. If not an unquestionable case, I maintain that it at least presented much more the appearance of Yellow Fever than of Pneumonia.

Up to this period, we have given accounts of *ten cases*, which were pronounced *Yellow Fever* by those who attended them; but there was by no means a unanimity of opinion amongst all who saw them. Some thought the subjects were *too yellow*, others that the yellowness was *not exactly of the right hue;* whilst others, again, maintained that yellowness was not at all characteristic of this fever: some said what was pronounced *black vomit* was *not dark enough*, others that it was *too black;* others, again, that it was not black vomit because it was of a *reddish hue;* whilst others, admitting a *resemblance*, still could not find "*the old fashioned Black Vomit.*" Some would not admit the cases were Yellow Fever, because they occurred "*too early in the season,*"—they had never known Yellow Fever to break out so early in this city, and therefore did not think it possible. Such were the discussions going on from day to day, among physicians and others, until the following *unquestionable case* occurred, which put an end to all controversy. The skeptics all gave it up after seeing this.

Case 11.—Margaret Russell, an Irish girl, aged twenty-two, had lived in New Orleans six months; entered the Charity Hospital, ward thirty-six, (Dr. Robertson,) June 10th—then sick six days, and died on the 11th, after turning yellow and throwing up large quantities of *unmistakeable, old fashioned, coffee-grounds black vomit. Previous history.*—Having learned that Margaret had lived with Mrs. Edwards, who keeps a boarding house on Tchoupitoulas street, just above Race street, I called upon Mrs. E. and ascertained the following particulars. Mrs. Edwards' residence is but one square back from the river, and about equidistant from the ship *Augusta* above, and the *Camboden Castle* below; perhaps a little nearer to the latter. Mrs. E. has had but few boarders lately; said that the last stevedore who boarded with her had left her house a week before Margaret Russell was taken sick; that no other person having anything to do on the river had boarded with her for some time past; said that Margaret had lived with her for two months past; that she staid pretty closely at home, and never went to the river; that she was attacked with

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headache, fever, pains, &c., on Sunday, the 5th of June; had no idea it was Yellow Fever; gave her an emetic on Monday; other medicines on Tuesday and Wednesday; and finding her no better on Thursday, sent for a physician. On Friday, the 10th, she commenced throwing up *black vomit*, and was sent to the Charity Hospital.

Thus we have an *unquestionable case of Yellow Fever* occurring in a servant girl, whose occupation confined her closely at home, and *who had not exposed herself to infection or contagion in any way whatever*. It must have originated in the place where she resided. Mrs. Edwards said there was no other case of fever in her house at the time these notes were made (June 13th).

About the same time that this girl was attacked, another case of *black vomit* occurred in the immediate vicinity. I am indebted to Dr. W. P. Sunderland for the fact, as follows :—

Case 12.—June 10th, Dr. Sunderland was called to see a young man, James Murray, at Mrs. Conroy's boarding-house on Race street, near the corner of Tchoupitoulas. When he got there he found the patient *dead* but a few minutes. He saw a quantity of *black vomit*, which he was told the patient had been throwing or spitting up for six hours previous. The body was yellow. Dr. S. pronounced it *Yellow Fever*.

On the same day that I called to see Mrs. Edwards, (June 13th,) I likewise called on Mrs. Conroy, from whom, and the brother of the deceased, I obtained the following particulars of this case :—

James Murray, Irish laborer, aged 25 years, arrived here on the ship "*Rufus K. Page*," about the 15th of April last, and went at once to board with his brother at Mrs. Conroy's. In a short time he found employment in Mr. Hadden's Tobacco Warehouse, on Hunter street, between Tchoupitoulas and Levee streets. P. Murray said his brother James was not much exposed to the sun in his employment, and was not in the habit of going on board ships, but that he had gone on one (name not recollected) the day before he was taken sick, Sunday. He thinks this ship had just arrived from Liverpool, and that James went on board under the expectation of meeting some old acquaintance from Ireland. He was attacked with fever on Monday morning, the 6th of June, was treated *pretty boldly* by the landlady, Mrs. Conroy, until the following Friday, June 10th, when he commenced throwing up *black*

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vomit. Mrs. C., not willing to trust her professional skill any further, now advised that a physician be called in. Dr. M. was first called, and afterwards Dr. Sunderland, who found the patient *dead*, as before stated. Immediately by the side of Mrs. Conroy's house is a blind or closed alley that runs from Race street, parallel with Tchoupitoulas street, in the rear of the houses fronting on the latter, as far up as Mrs. Edwards' boarding house, mentioned in the previous case; thus placing these two boarding houses back to back, diagonally, with a filthy alley between. Mrs. Conroy informed me (and I noted it in her presence) that this alley was much neglected and generally *very filthy*—that it had been cleaned but once in the last week or two. As we sat on the front steps talking, I observed a pile of stinking rubbish before the door and the alley.

So here we have another unquestionable case of Yellow Fever apparently originating in the same locality, and it was in *this neighborhood* that the epidemic first prevailed amongst the resident population. But more of this anon. On the 17th of June, an Irish girl named Ellen Mullen was attacked with Yellow Fever in this house, and was sent to the Charity Hospital on the 20th, where she was cured, after a long and severe spell. About the middle of October Patrick Murray, before mentioned, was attacked in Mrs. Conroy's house, and recovered.

As I cannot make room for notes of all the cases that occurred from this time forward, I shall now direct attention to other and different locations, where the fever made its first appearance.

Cases 13th and 14th—Timmons, and his little son aged twelve years, entered the Charity Hospital, Ward 30, (Dr. McGibbon,) on the 16th and 17th of June. The man had been sick about three days, and the boy about six. They had lived in the city three years, but never spent a summer here before. They resided on Louisa street, just above St. Mary's Market, and about 600 yards below Race street. The man got well, but the boy died of hemorrhage from the mouth. Timmons had lost one or two of his children at home, and on the 25th of the month his wife and last child entered the hospital, and both died; thus leaving the poor fellow bereft of all his family.

Case 15th—Mary Lane, Irish woman, aged 20 years, entered the Charity Hospital on the 21st of June—had been in the city eight months—sick one day; said she resided near *the New Basin.* Died on the 24th of June.

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The New Basin is the terminus of a canal that leads back to the Lake. It is on Julia street, about nine squares back from the river, and at least three quarters of a mile below Race street. So here is a locality quite remote from any in which we had found Yellow Fever before, and I am not aware of there having been any sort of connection between the cases.

We now come to a new locality, in quite a different quarter.

DR. BROWNING'S CASES, NEAR THE MINT.

I am indebted to Dr. George Browning for the following notes:

No. 1.—On the 21st of June Dr. B. was called to a man on Old Levee street, near Esplanade, and opposite the U. S. Mint. The subject was a German shoe-maker, aged eighteen years, had lived in the city seven months, and was sick two or three days before Dr. B. saw him. Found him with hot fever, pains in the head, back and limbs, irritable stomach; afterwards slight hemorrhage from the nose. He died on the morning of the 24th. Did not throw up black vomit, but the body turned quite yellow after death. No *post mortem*.

Nos. 2 and 3.—On the day the above case died, (June 24th,) Dr. B. was called to two other cases of fever at a sailor's boarding-house in the immediate vicinity, both of which recovered without hemorrhage, or yellowness.

No. 4.—A robust Irishman, unacclimated, residing in the same house as Nos. 2 and 3, was attacked with fever on Saturday, the 25th, and was taken to the Charity Hospital on Sunday morning, the 26th of June. Was admitted into Ward 25, (Dr. Meux,) and died with black vomit on the 28th.

No. 5.—June 27th, Dr. B. was called to a German shoe-maker, aged 33, who lived next door to case No. 1; had been in the city 6 months—been sick five or six days before Dr. B. saw him: he died with black vomit on the night of the 28th.

Dr. Browning has since informed me that he recently, at my request, made more particular inquiry about cases number two and three, and ascertained that one of them was a sort of runner for the house, whose business it was to visit the shipping for the purpose of getting boarders. The other was a sailor, who had been going between the city and the West Indies for ten years past. They were both Germans.

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Dr. B. further states that subsequently there were several other cases of Yellow Fever in this boarding house, some of them fatal; but that *the first case in the neighborhood certainly occurred*, as before stated, *in the shoemaker, who was closely confined at home.*

Let us now trace the appearance of the disease in still a different locality, at about the same time of the preceding; i. e. Algiers, a town on the opposite side of the river, entirely unpaved.

CASE 21.—Eliza Lacy, Irish girl, aged 21, had lived in Algiers 9 months. Entered the Charity Hospital, (Dr. Robertson's ward,) on the 25th of June, then sick three days. She had hemorrhage from the mouth and from a blister over the stomach, also black vomit, and died on the 9th of July.

CASE 22.—Rose Turner, Irish girl, aged 21 years, had lived in Algiers 6 months. Entered the Charity Hospital on the 29th of June; then sick four days; died July 4th. I find this case marked "*Remittent Fever*" on the books of the Hospital; but I know it was *Yellow Fever*.

From this period onward the epidemic prevailed severely in Algiers.

We will mention one more separate and distinct locality where the fever broke out at this period; viz., *the back part of the third district*, formerly the third municipality. It is unpaved.

CASES 23, 24, 25, 26.—On the 28th and 29th of June a family of four persons, consisting of Mary Kelly and her sister, Mrs. Kelly, in the female wards, and Edward Kelly and his brother, a boy aged 15 years, were all admitted into the Charity Hospital. They all died excepting the boy. This family had been in the city *five months*, and resided on Mandeville street, three squares below the Pontchartrain rail-road, and six squares back from the river. The disease did not prevail epidemically in this region till late in July. On inquiry I was not able to trace any sort of connection between these cases and the preceding.

At the regular meeting of the Physico-Medical Society, on the the 2d of July, I stated most of the preceding facts as they had been noted at the time of occurrence. Several members mentioned having seen cases of Yellow Fever, in private practice, in the month of June.

Dr. Benedict said he had seen six cases—five of them in one house on Religious street: "thought they were simple *intermittent*

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and remittent bilious fever at first, but some of them proved to be *yellow fever*, and died with black vomit. All that recovered *turned yellow.*"

Dr. Lindsay said he had seen five or six cases of Yellow Fever in the same region.

Dr. McGibbon mentioned two cases he had seen in Lafayette: he thought one of them was Yellow Fever, but the other doubtful. They were young men residing in the same house, on the corner of Bachus and Fourth streets.

The late lamented Dr. D. Elliot Reynolds mentioned eighteen or twenty cases of fever that had occurred on the steamship *Falcon*, lying opposite Jackson Square. This ship had arrived here from Aspinwall, on the 20th of June—no sickness on board at that time. In a few days fever broke out amongst the crew, at first thought to be *remittent bilious fever*, but some of them proved to be *Yellow Fever*. Two of these cases died of *black vomit*, under the care of Dr. Marmillon.

Having now traced the disease from its beginning on the 23d of May, through all the different localities where it first appeared, up to the last of June, let us pause a moment and review the facts thus far presented.

There had been forty-seven deaths from Yellow Fever up to the 2d of July, as appeared in the weekly reports from the cemeteries. About the same number of Yellow Fever cases had been *admitted* into the Charity Hospital up to the 1st of July.

I have not given accounts of *all* the cases that occurred up to the 1st of July, because it would have taken time and space; but I have minutely traced all *the first cases*, in the respective localities where they occurred. The following are the different localities I have pointed out as the seats of the first cases:—

1. River, at Josephine Street, ships Augusta and Northampton; see cases 1 and 7.
2. Chipewa Street, eleven squares above Josephine street; case 6.
3. River, at Robin Street; cases 8 and 9.
4. Gormby's Basin, upper and back part of the city; Dr. Dowler's cases.
5. Race and Tchoupitoulas Streets; cases 11 and 12.
6. Louisa Street; cases 13 and 14.
7. New Basin; case 15.

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8. Near the Mint, lower part of the city; Dr. Browning's cases.
9. Algiers, across the river; cases 21 and 22.
10. Mandeville Street, lower and back part of the city; case 23.

The reader will please refer back to the cases for particulars. The localities designated circumscribe *almost the entire outskirts of the city*, at the same time *dipping pretty far in;* and it was from these different points, or their vicinities, that the disease continued to spread, though by no means with equal speed, as I shall presently show. It must be recollected that we are, as yet, only up to the *first of July*, when the disease was still prevailing *sporadically*. The *epidemic* was not declared until two or three weeks later. I put myself to considerable trouble to ascertain the foregoing facts, most of which were noted down at the time they occurred, and I believe they are, in the main, correctly stated. I must at least think they are more authentic and minute than any that can be collected at this late day in relation to the commencement of the Great Epidemic. Now, if any one can trace any sort of connection or communication between the first cases of the disease as they appeared in the different localities I have pointed out, or anything like the *gradual spread of an imported contagion or infection from one or more points to the region around*, I can only say, it is more than I have been able, satisfactorily, to do.

It was currently reported, during the summer, that this fever was brought to us by vessels from Rio Janeiro. With the view of ascertaining what truth was in these reports, I called upon Mr. Lonsdale, one of the largest dealers in coffee, who could tell me all about the Rio vessels. Mr. L. said that nearly all the vessels that arrived here from Rio, after the 1st of April, had suffered more or less from Yellow Fever after leaving that port, but that *none of them had brought cases to New Orleans*. He could only make special mention of sickness on the following vessels: 1. The ship *Siri*, Capt. Higgins, arrived here on the 10th of May, and took position at Post 13. The Captain had lost his wife, son, and some of his crew before leaving Rio, *but had no sickness on the voyage, and none after arriving here*. This position is about a mile below that of the Augusta and Northampton.

2. The ship *Mary Kendall* arrived here from Rio on the 25th of June, via Jamaica, where she had to put in on account of distress from Yellow Fever: had left Rio on the 25th of January. Mr. L.

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thinks the Captain had lost his wife and sister-in-law before leaving Rio. Brought no case to this port—there were plenty of cases here when she came.

It was reported that the ship *Adelaide* had brought from Rio the first cases of Yellow Fever that were seen here; but on careful inquiry I find that *this ship has not been here this year at all.*

Something was said about the fever having been brought here by the iron ship *Evangeline.* On inquiry, I found that this ship arrived here *direct from Liverpool on the 10th of June, after we had a number of cases.*

I find the following interesting communication in the *New Orleans Delta* of the 17th of September:

YELLOW FEVER AT RIO JANEIRO.

"A correspondent, who has been for a number of years a resident of Rio Janeiro, furnishes the New York Commercial Advertiser with the following interesting account of the Yellow Fever, as it has prevailed there, during the three last seasons:

"'Frequent reference to the Yellow Fever of Rio de Janeiro having, of late, been in the New Orleans prints and letters, to the effect that the fever now prevailing there was imported from Rio, giving the name of the vessel, and that it might have been prevented by quarantine regulations; also, "that the fever, which was more malignant than ever known, was of a similar character as the Rio fever, being something like the plague, the corpses after death having black spots on them"—thus leaving the inference that the Rio fever was the worst kind for virulence and extent, giving most erroneous opinions of the health of Rio, and creating a most unnecessary alarm. The undersigned being a resident of Rio, feels called upon to state a few facts in the case, that the public may be correctly informed, and judge of the propriety of renewing the antiquated notion of quarantine to prevent contagion, or feeling uncalled-for anxiety for friends who may be visiting Rio while the fever is prevailing.

"'Prior to 1850, Rio was considered the most healthy tropical city in the world, no fatal epidemic having ever visited it; Yellow Fever and Cholera were unknown. Early in February, 1850, some cases of fever occurred on board a vessel from Philadelphia, which terminated fatally with all the signs of Yellow Fever. Others

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were soon reported on board ship and on shore. It spread rapidly, so in April, when it was at its height, the total number of deaths were from one hundred and sixty to one hundred and eighty per day. From 1st May it decreased, and in June it had nearly disappeared. The average of deaths while it prevailed was fifty per day for four months, two thirds being by the fever. The disease was not so virulent and rapid as it usually is in Havana, and with immediate and proper treatment a large proportion recovered. The population of Rio Janeiro is about two hundred and fifty thousand, and the number of vessels in port was very large, many bound to California with passengers. Exposure and imprudence always increase the victims, and all know that none are more exposed than seamen, or more careless.

"'The same fever pervaded the whole Brazilian coast in 1850. At Bahia it was traced to a vessel from New Orleans, and believed by many to have been imported in her. With equal propriety, it might have been said to have been imported into Rio from Philadelphia. Both would be absurdities, as the vessels left the United States in the winter season, and never had any sickness on board till after their arrival.

"'The epidemic was no doubt an atmospheric one, somewhat like the cholera. A malaria pervaded the whole coast; this was proved by several cases of fever appearing on board vessels from Europe prior to arrival. It was probably a visitation in lieu of the cholera, which has visited every part of the world except Brazil.

"'The fever was confined exclusively to the city and suburbs. It did not spread into the interior, so that there was a safe and speedy retreat to a place of safety for all those who could leave the city.

"'In 1851, there were a few sporadic cases, but it never could be called epidemic on shore. The cases on ship-board were more numerous; but, with proper care, they were not very fatal. The same remarks apply to 1852.

"'The fever this year has been worse than in 1851 or '52—having begun earlier than usual; but not nearly so bad as would be supposed by the reports published in the public prints. It is true that there have been some severe cases, but they were isolated ones, and exceptions.

"'The true test are the bills of mortality, which are daily pub-

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lished, in the most particular manner, officially. Their correctness has never been doubted by those who know the city and the facts. I have carefully examined them, and collected the following results, which may be relied on as correct.

"'Average daily deaths at Rio, from official reports, blacks and slaves included:

Jan.	5	Yellow Fever.	7	Consumption.	Total, all diseases,		28
Feb.	7	"	6	"	"	"	27
March	5	"	6	"	"	"	26
April	5	"	5	"	"	"	24
May	4	"	5	"	"	"	20

Average of 5 months—

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"'About five eighths of the deaths by fever were in the hospitals which are well arranged and managed. At the hospital appropriated to seamen, at Jurujuba Bay, by the published weekly reports, in May the deaths were only 17 per cent. of the number entering, at that time about fifty per week. This was after a steamer was provided by the Board of Health to receive patients and take them to the hospital. The steamer was provided with beds, physician and medicines, so that no time was lost in treating the disease. Previous to this, many were in the last stages before they were taken to the hospital, consequently many more deaths.

"'By the bills of mortality examined, it appeared that the number of deaths of persons from seventy years and upwards, [averaging 80 1-3 years] were 3¼ per cent. of the whole number, when daily the average was twenty-five. The daily average at other seasons is under twenty. Three were 111, 115 and 118 years. Few if any cities can show a similar result.

"'The number of deaths by consumption has increased very much of late years. This is frequently ascribed by the Brazilians to vaccination, as previous to its introduction consumptive cases were very rare.

"'The name of the vessel stated in the New Orleans print as having introduced the fever there from Rio, was the Adelaide. No vessel of this name can be found as having loaded at Rio for New Orleans, or to have arrived there.'" G.

It is often referred to as *a fact*, that the first cases of Yellow

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Fever in this city *always occur among the shipping*. This is *not true*, as I have shown in my previous accounts of Yellow Fever in this city. In short, it is evident, from the facts within my knowledge, that the *shipping* has suffered much worse than the city from the contact.

From the foregoing facts it will be seen that the disease steadily progressed with increasing speed from the time of its first appearance, about the 23d of May. If we had not an *epidemic* actually upon us at the period we have now reached, (July 1st,) there was certainly a strong probability that we soon would have one. But this was by no means a conceded point; on the contrary, there were all sorts of cavilings, disputes and discussions in regard to it; and those who interpreted correctly the signs of the times, and foreseeing the impending danger, advised their friends who intended to leave the city to hasten their departure, were *most soundly abused* for their conduct. It were needless now to recount the unfortunate victims who were thus *ensnared*, from want of correct information and judicious advice. The city was *actually without a Board of Health* at the time, although the weekly reports from the cemeteries were published as formerly, under the direction of the Mayor and the late Secretary. This was all the *correct* information that was published, and even this was complained of by some who thought it better to *suppress the truth than cause a panic*.

We may now proceed in a more summary manner, noting only the more prominent incidents that occurred in the rapid progress of the disease. Although I have pointed out ten different localities, (some of them not far apart,) where Yellow Fever cases first occurred, it is certainly true that the disease progressed most rapidly in the region where the very first cases were observed—I mean the region in the upper part of the city bordering on the first and second districts, lying between Robin and Josephine Streets, and extending as far from the river as Magazine Street. It was here that the disease first prevailed as an *epidemic*, which it did to a great extent before any cases originated in the centre of the city, as I shall presently show. This region contains but *two paved streets*, viz.:—*Tchoupitoulas*, running parallel with the river, and *Felicity Road*, running diagonally across; the former a great thoroughfare, the latter not. The streets in the rest of this extensive area are *unpaved;* the houses are, for the most part, of an inferior order, and are occupied chiefly by the Irish and Dutch. The water-

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works fount, and a number of large cotton-press and tobacco warehouses are in this region. But more of this when we come to take a general review of the ground over which the epidemic travelled.

We are now into the month of July, and will proceed with our *memoranda*, as they were noted down in my diary. Throughout this month the weather was hot and wet—the unpaved streets very muddy.

July 2d.—I note eighteen deaths from Yellow Fever at the Charity Hospital—the physicians in the upper part of the city very busy, whilst those on and near Canal Street have but little to do. As yet, I hear of no cases in the better classes.

July 6th.—Miss Pearsall, a highly respectable and accomplished young lady, died of Yellow Fever on Coliseum Place. The death of this young lady caused quite a panic, and hastened the departure of many from the city who had intended to leave about this time. Mr. Pearsall, her father, left a few days after her death, was attacked on the river, and died of Yellow Fever at Natchez.

July 8th.—Called to my first case in private practice, Miss B., on St. John Baptist Street, near the water-works.

July 9th.—Reports from the cemeteries show fifty-nine deaths from *Yellow Fever*, and fourteen from *other fevers*, for the week ending this date.

July 10th.—Heard of the death of a Hydropathic physician, Dr. Gray, on the corner of Girod and Carondelet Streets.

July 13th.—Deaths from Yellow Fever fifteen to twenty a day at the Charity Hospital; most of the cases come from the water-works region, a few from about the New Basin, some from Algiers and Claiborne Street. Dr. Beard told me he had two cases on Girod Street. The disease is approaching the heart of the city.

July 15th.—The Howard Association come out in the papers offering their benevolent services to the poor and afflicted—are complained of for doing so by some who persist in saying there is *no epidemic, and will be none*. Four or five cases of Yellow Fever have originated recently within the Charity Hospital. This may be marked as the period when it might be said that Yellow Fever prevailed to the extent of an *epidemic*, though there was no Board of Health to publish such a declaration, and some persons, *even physicians*, still denied it most strenuously.

July 17th.—Yellow Fever increases rapidly. Interments for the

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week ending yesterday, three hundred and forty-four; of which two hundred and four were from *Yellow Fever;* nearly four times as many as the week previous. Nearly half of these deaths occurred at the Charity Hospital, where the mortality has been very great, owing chiefly to the late stage of the disease in which the patients enter; yet it is undoubtedly a very malignant fever.

July 18th.—The epidemic is coming into the heart of the city. I hear of cases at the St. Charles, Verandah and City Hotels—two cases among the servants at the Orleans Club-Room on St. Charles Street. But even as yet, the physicians in this part of the city have very few cases, some of them none.

July 23d.—Interments for the week ending to-day, six hundred and seventeen; of which four hundred and twenty-nine were from Yellow Fever. Still there are but few cases in the centre of the city. The epidemic reigns chiefly in *the unpaved parts all around.*

About this period there were numerous calls in the newspapers for the organization of a BOARD OF HEALTH—City Councils busily employed with this matter.

August 2d.—A *Board of Health* has been organized, and the papers of this morning contain its first *weekly and daily* reports. For the week ending July 31st, the interments were eight hundred and eighty-four; Yellow Fever six hundred and ninety-two. Interments on the first day of August, one hundred and forty-two; of which one hundred and twenty-three were from Yellow Fever.

August 4th.—The epidemic begins to rage in the central part of the city—Canal Street.

August 6th.—Col. Bliss, a distinguished officer in the United States Army, died of Yellow Fever at Pascagoula, on the Lake shore. He had not been in New Orleans for seventeen days when he was attacked. Left here on the 13th of July, and was attacked on the 30th. Dr. McCormick, Assistant Surgeon, U. S. A., tells me this, and says there was another fatal case at Pascagoula in a man who had not been away from there at all. This man died a day or two before Col. Bliss.

August 7th.—Weekly report of the Board of Health to this date shows one thousand one hundred and eighty-eight deaths, of which nine hundred and fifty-nine were from Yellow Fever, and twenty-nine of other types of fevers, such as "pernicious," "malignant," "congestive," "intermittent," "typhus," "typhoid," &c. The prev-

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alence of these various types of fever with Yellow Fever will be more distinctly pointed out in the statistics that will follow.

August 15th.—I find the following summary of the work of death in one of the city papers:

"A correct report of the interments in all the Cemeteries of the city for each day in the month of August, to the 14th of said month:

	Total.	Yel. Fev.	Other Dis.	Not stated.
August 1	142	106	25	11
" 2	135	115	14	6
" 3	146	124	17	5
" 4	166	135	15	16
" 5	150	128	9	13
" 6	238	194	30	14
" 7	209–1186	165–967	40–150	4–69
" 8	219	187	23	9
" 9	201	166	21	14
" 10	230	193	33	4
" 11	223	192	13	18
" 12	207	180	25	2
" 13	214	179	22	13
" 14	232–1526	191–1288	26–163	15–75
Total,	2712	2255	313	144

J. C. EDMONDS, M. D.,
Secretary of the Board of Health."

At this period the epidemic rages most awfully; the public consternation and distress are indescribable.

On the 18th, the Mayor of the city, under the advice of the Board of Health, ordered rounds of cannon to be fired in various quarters of the city, at sunset every day, and barrels of tar to be burnt at nightfall all over the city. The firing of cannon was soon discontinued on account of its injurious effect upon the sick, but the *tar-fires* were kept up for a considerable time.

August 21st.—I cannot do better than insert here the following summary review of the epidemic up to this date, from the *Picayune:*

THE EPIDEMIC.

CEMETERIES—HOSPITAL—REMARKS.

"The interments in all the cemeteries of the city for the week ending at 6 o'clock yesterday morning, Saturday, the 20th inst., are

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in detail as follows, the deaths by Yellow Fever being those certified to by the physicians.

Interments for the twenty-four hours ending at 6 A. M., on—

	Total.	Yellow Fever.
Sunday, August 14	232	191
Monday, " 15	213	182
Tuesday, " 16	193	163
Wednesday, " 17	219	191
Thursday, " 18	219	188
Friday, " 19	234	203
Saturday, " 20	224	184
Total,	1534	1302

"During this week the cases of deaths reported for causes unknown number seventy-four. At least sixty-three of these were Yellow Fever deaths, which, added to the total above, would give one thousand three hundred and sixty-five deaths by Yellow Fever for the week ending at 6 A. M. on the 20th inst.

"The mortality for the week previous to the above was as follows:

"Interments for the twenty-four hours ending at 6 A. M. on—

	Total.	Yellow Fever.
Sunday, August 7	209	165
Monday, " 8	228	193
Tuesday, " 9	192	164
Wednesday, " 10	224	184
Thursday, " 11	217	194
Friday, " 12	210	183
Saturday, " 13	214	179
Total,	1494	1262

"The unknown cases were fifty-four in number. Of them at least forty-six were deaths by Yellow Fever, making the total deaths by this cause for the week ending the 13th inst., one thousand three hundred and eight.

"The returns for the week previous to the one just referred to were as follows:

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"Interments for the twenty-four hours ending at 6 A. M. on—

	Total.	Yellow Fever.
Sunday, July 31	157	137
Monday, August 1	142	106
Tuesday, " 2	135	115
Wednesday, " 3	146	124
Thursday, " 4	166	143
Friday, " 5	150	128
Saturday, " 6	238	194
Total,	1134	947

"The unknown cases were fifty-seven. Of them, taking the same proportion (six sevenths) as in the preceding tables, the deaths by Yellow Fever were forty-nine. The total deaths of Yellow Fever for the week ending on the 6th inst., were nine hundred and ninety-six.

"The interments for the three weeks ending yesterday are as follows:

"Week ending at 6 A. M. on—

	Total.	Yellow Fever.
Saturday, August 6	1134	996
" " 13	1494	1308
" " 20	1534	1365
Total,	4162	3669

"In our weekly reports heretofore we took no account, as we have now done, of the proportion of Yellow Fever cases in those interments reported daily as from unknown or not stated causes. The slight increase in the totals of Yellow Fever interments as given in the above table is owing to the addition of this proportion.

"This table shows an increase for the week ending at 6 P. M. yesterday over the previous week of forty in the total of interments, and of fifty-seven in those by Yellow Fever. This increase compares favorably, (if such a word can be used in connection with such a subject,) with that of the second week in the table over the first. The increase there was three hundred for total interments, and three hundred and twelve for those of fever.

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"But if the increase for the week ending yesterday is not so decided, it must be considered that the proportion of mortality to the population is greater than it was even a week ago. How long this is to continue, it is not for human authority to say, except that experience tells us that the first frost will, without doubt, cut short the career of the epidemic. We do not well see how its severity is to last much longer, for there must be few unacclimated persons left to undergo its power.

"We follow out the same form of returns, and comparisons between them, for the reports from the Charity Hospital. These are made up to midnight of each day. Our weekly report consequently ends at midnight on Friday, the 19th instant.

"Report of the hospital for the twenty-four hours ending at midnight on—

	Admissions.	Deaths.	Yellow Fever.
Saturday, August 13	69	42	33
Sunday, " 14	72	40	35
Monday, " 15	87	47	46
Tuesday, " 16	61	39	34
Wednesday, " 17	66	35	33
Thursday, " 18	74	28	24
Friday, " 19	59	41	39
Total,	498	272	244

"The report for the week previous, ending on the 12th instant, gave 594 admissions, 282 deaths, and 266 by Yellow Fever.

"For the week ending on the 5th instant, the admissions were 542, the deaths 304, and those by Yellow Fever, 296.

"The totals of the hospital reports for the three weeks ending at midnight on Friday, the 12th instant, are as follows:

	Admissions.	Deaths.	Yellow Fever.
Friday, July 29	570	218	207
Friday, August 5	547	318	307
Friday, August 12	594	282	266
Friday, August 19	498	272	244
Total,	2209	1090	1024

"The decrease in the admissions and deaths at the Charity Hos-

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pital for the week ending at midnight last Thursday, is to be attributed for the most part to a large portion of its class of patients seeking relief at the four city infirmaries and other hospitals.

"The mortality reports of the Charity Hospital, as compared with those of the city exclusively, are for the last three weeks as follows:

	Total Deaths.		Yellow Fever.	
	City.	Hospital.	City.	Hospital.
Week ending August 6..	816	318.....	689	307
Week ending " 13..	1212	282.....	1042	266
Week ending " 20..	1262	272.....	1121	244
Total,.....	3290	872	2852	817

"The Howard Association, having received ample funds from the generous people of New York, Baltimore, Philadelphia, Washington, Savannah, Baton Rouge, Natches, and various parties in and near this State, are opening four new infirmaries for the indigent sick, and one especially designed for convalescents. Baton Rouge has also sent a deputation of her citizens to assist the Howard Association in waiting on the sick. This is indeed an act of benevolence that the good Samaritan might envy."

"The Mayor, Council Committee, and Board of Health exert themselves unremittingly in the discharge of their responsible and difficult duties. They have the cemeteries in excellent order, and for the last few evenings have had cannon fired, and tar burned as an experiment to purify the atmosphere."

"Many objections being made to the firing of cannon as injurious to the sick, that measure was stopped by the Mayor's order, and he yesterday issued a notification to the citizens to the effect that coal tar will be placed at accessible points throughout the city, and all persons are requested to get as much of it as they wish, and burn it in their yards and about their premises morning and evening."

SYMPATHY FOR THE SUFFERERS.

"The Washington Union of the 14th contains the following notice and report of the proceedings in Washington on behalf of the sufferers by the epidemic in this city. It will be perceived that the President contributed handsomely on the occasion:

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"Last evening a meeting of the citizens of Louisiana was held at the National Hotel, and also of the citizens of Washington in the Council Chamber of the City Hall, to take steps to contribute to the relief of the people of the Crescent City, who are exposed to the ravages of an unparalleled epidemic—that malignant scourge of that devoted city—the yellow fever."

"At these meetings the best feelings of the human heart were displayed. Our worthy Mayor, the Hon. J. W. Maury, presided at the Council Chamber, and explained the object of the assemblage pertinently, and with great feeling. The address of Prof. DeBow was able and eloquent, and that of J. M. Carlisle, Esq., replete with all the graces of oratory, and abounding in sentiments of kindness and benevolence. Mr. Wilder, of New Orleans, made a few judicious remarks, and Col. Seaton, of the National Intelligencer, evinced a warm interest in the object of the meeting. On motion of Col. Seaton, a committee was appointed composed of five members from each Ward, with instructions to collect contributions. Upon the adjournment of the meeting, his Honor the Mayor invited those present to make their contributions. About eight hundred dollars were at once subscribed, the name of Franklin Pierce gracing the list, having been placed there by his request. Wm. W. Corcoran, Esq., the wealthy and whole-souled metropolitan banker, stepped forward and contributed the liberal sum of five hundred dollars. Deeply sympathizing with our afflicted friends in the commercial emporium of the south, we rejoice that a movement has been made in our city under such favorable auspices for their relief."

August 28th.—*Greatest Mortality.*—The week ending on yesterday displays the highest mortality of the epidemic. From this period its ravages decreased; at first slowly, but in a short time very rapidly, as will hereafter be shown. I again extract from the carefully made summaries of the *Picayune* of this date:

THE EPIDEMIC.

CEMETERIES—HOSPITALS—REMARKS.

"The interments in all the cemeteries of the city for the week ending at 6 o'clock yesterday morning, Saturday, 27th inst., are in detail as follows:

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"Interments for the twenty-four hours ending at 6 A. M. on—

	Total.	Yellow Fever.
Sunday, August 21	269	230
Monday, " 22	283	239
Tuesday, " 23	258	220
Wednesday, " 24	222	188
Thursday, " 25	218	186
Friday, " 26	193	151
Saturday, " 27	185	151
Total	1628	1365

"Of the total interments 90 were cases where the doctor's certificate did not state the cause of death. Of these at least 77 were yellow fever cases, making the deaths by yellow fever for the week 1442.

* * * * * * * * * *

"The returns for the fourteen weeks ending yesterday at 6 A. M., since the first yellow fever death took place, are as follows:

"Week ending on Saturday—

	Total.	Yellow Fever.
May 28	140	1
June 4	142	1
June 11	154	4
June 18	147	7
June 25	167	9
July 2	177	25
July 9	188	59
July 16	344	204
July 23	617	429
July 30	723	555
Aug. 6	1134	947
Aug. 13	1494	1262
Aug. 20	1534	1302
Aug. 27	1618	1365
Total	8579	6170

"The cases in which thedoctor's certificate did not give the cause of death, were as reported by the Board of Health for the last five weeks in the preceding table, to the number of 279. Of these at least six-sevenths were yellow fever cases, giving 239 for that class of disease out of the 279. These, added to 6170 at the foot of the general table above, show that in the four districts of this city, from May 28 to August 27—or within a day of three months—6449 human beings have died of yellow fever.

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"It would be an interesting statistical fact for the Board of Health to inquire into, how many children and grown persons, born here, have died of the fever? how many have had the fever twice? how many colored persons have died of it? We know of a number of children born here, under the age of ten years, who have died of the fever; we know positively of one case, and have heard of a good many, where the person attacked had already had the fever here; we know of negroes who have had the fever and died of it; and we know, too, of a number of persons who have lived here through several epidemics, some of whom have been attacked this year, and others have escaped it altogether."

I can testify to the facts specified by the Picayune.

September 1.—A pleasant day—hard shower early in the morning. The epidemic is declining rapidly; deaths from it now only amounting to about 100 a day.

September 2.—This day is appointed by the Mayor of the city as one of fasting and prayer.

Yellow Fever is now prevailing at Mobile, Natchez, Vicksburg, Woodville and Thibodauxville. The latter place is a small village situated on Bayou Lafourche in this state. The following extract is from one of our city papers:

"YELLOW FEVER AT THIBODAUXVILLE.—The following endorsement was written on the mail bill from Thibodaux, September 2, which arrived here yesterday: 'Stores closed—town abandoned—151 cases of yellow fever—22 deaths—postmaster absent—clerks all down with the fever.

"'Respectfully, J. C. WHITE, Ed. of Minerva.'"

"YELLOW FEVER IN MOBILE.—The interments in Mobile on the 31st ult. were 27, of which 22 were yellow fever. On the 1st inst. the number reached 32, of which 23 were of yellow fever. On the 2d inst. the interments were 43, of which 37 were from yellow fever cases."

September 7th.—Only 48 deaths from yellow fever to-day.

September 17th.—The deaths from yellow fever have now got ten down to 24 a day; for the last week 221. All the infirmaries of the Howard Association have been closed, excepting one, which is still kept open for convalescents. In fact, the *epidemic is now*

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over, though this is not yet announced by *authority*, and we may expect to see *sporadic* cases till the end of the year.

On the 20th September, having little or nothing to do at home, I made a visit to my friends in Mississippi, when I saw something of the yellow fever of Vicksburg and Jackson. I returned to New Orleans on the 7th of October, and found the city *uncommonly healthy*. Went up to the Charity Hospital on the 8th, and found 10 wards closed for want of patients; yet I saw a few cases of yellow fever there.

October 8th.—The mortality for the week ending this day, was 133; of which 42 died of yellow fever, and of these 36 died at the Charity Hospital; consisting chiefly of laborers and others, who had recently come to the city.

The following extract is from the last weekly summary of the epidemic that appeared in the Picayune:—

"The following is a table of the total interments, and of those by yellow fever only, which were certified to by the physicians, from the week the first yellow fever case was reported as terminating fatally, up to 6 A. M. yesterday morning:—

"Week ending on Saturday at 6 A. M.

	Total.	Yellow Fever.
May 28.	140	1
June 4.	142	1
June 11.	154	4
June 18.	147	7
June 25.	167	9
July 2.	177	25
July 9.	188	59
July 16.	344	204
July 23.	617	429
July 30.	723	555
Aug. 6.	1134	947
Aug. 13.	1494	1262
Aug. 20.	1534	1302
Aug. 27.	1628	1365
Sept. 3.	955	749
Sept. 10.	576	421
Sept. 17.	365	221
Sept. 24.	263	125
Oct. 1.	219	85
Oct. 8.	133	42
Total.	11,100	7,813

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Cases in which causes of death were not stated in the last ten weeks of this table	450
Of these six-sevenths for yellow fever	385
Total of deaths by the fever since May 28	8,198"

October 13th.—The Board of Health announce publicly that "*there is now no epidemic in the city, and that absentees and strangers may come in with safety.*" This announcement was welcomed with joy, and from this time people rushed in from all quarters. A few were attacked after their arrival here, but not severely, the malignancy of the fever having been greatly mitigated.

I stated, in my memorandum of the 17th September, that I considered the epidemic was really over then, although there was no public announcement to that effect. My opinion was based, not *alone* upon the great diminution of cases, but also upon *the change of type* that was visible in the new cases then occurring. Fevers of the *pernicious*, *intermittent*, and *remittent* types became more common than yellow fever. In fact, the yellow fever type was gradually giving place to the remittent and intermittent, as will appear plainly in the statistics to follow. This is what always occurs, as I have completely demonstrated in my previous writings on the subject.

The number of deaths from yellow fever, for the week ending September 17th, was 221. Now, if we refer to the period when the deaths first got up to a similar amount, we shall find that it was the week terminating the 16th of July, when the deaths were 204. Thus we have *two months* as the period during which it may be said *yellow fever prevailed as an epidemic.* This again corresponds with the observations of the past. We have more or less yellow fever in this city *every year*, but, after a constant residence here of twelve years, I must say I have never known it prevail *to an epidemical extent* for a longer period than *sixty or seventy days.* Some persons attempt to draw a distinction between *epidemic* and *sporadic* yellow fever; but this is *sheer nonsense.* If there be such a disease as yellow fever at all, you may see as *genuine a case* of it in a season when not more than a dozen of the kind occur, as in one presenting thousands of cases.

A *popular error* of extensive prevalence, and long standing respecting yellow fever, is, *that an epidemic can alone be extinguished by*

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frost. I demonstrated this error in my histories of the epidemics of 1847 and '48, and the events of the present year fully confirm the correctness of my observations. In 1847 the epidemic ceased long before the appearance of frost; yet sporadic cases were seen to a considerable extent to the end of the year. On the present occasion, the disappearance of the epidemic was published by the Board of Health on the 13th of October, whilst the *first frost* was announced on the 25th of October, and that was only observed on the outskirts of the city. On the 31st there was a much heavier frost, but by this time a large number of persons had returned to the city. It is true that some of them were attacked with the fever, as before stated; but the cases were generally mild, and easily managed. We shall, doubtless, continue to see scattering cases till the end of the year. The general remote cause of all the endemic fevers seen here, which, in its most virulent or powerful state, produces an epidemic of yellow fever, gradually undergoes modification in the progress of time; it becomes less virulent or powerful, and in proportion to the degree of this change will it produce the milder types of fever. This position is illustrated by the remark of a highly intelligent practitioner of the 4th District, whom I met about the 10th of October. On being asked whether he saw much yellow fever at that time, he replied that "he saw a good deal of fever, but he hardly knew whether it was *yellow fever* or not." I asked him how the cases looked, if they became *dangerously ill or died?* He said "they then generally looked *precisely like yellow fever.*" Another professional friend in the same District told me a short time afterwards that he had just been astonished at seeing a case of intermittent fever terminate in *fatal black vomit.* Such observations show that the prevailing *fever-cause*, which in August produced *yellow fever* in nine-tenths of the cases that occurred, had become so much weakened in October as to produce mostly the *remittent and intermittent types;* yet the relationship between them was still so close, that if the latter were not promptly cured, they ultimately presented the worst features of the former.

The disease first prevailed to an *epidemical extent* in the region bordering on the junction of the *First and Fourth Districts*, extending from the river back and around the *Water-works*, as I have more distinctly shown in the foregoing memoranda. It was shown that it also broke out in various other places quite remote from each

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other, and having no special or marked intercommunication. It is worthy of particular notice that the *Epidemic prevailed in the unpaved, and, of course, least improved parts of the city all around, long before it did in the central and best improved parts.* It is well known that the Epidemic was not so bad this year on Chartres, Royal, Burgundy, Customhouse, Bienville, Conti, and St. Louis streets, as it was in 1847. Thirty years ago this region bore the chief brunt of the Epidemics. From this city, which was the starting point, the Epidemic influence gradually expanded until it ultimately spread over a more extensive region around than was ever known before. Along the Mississippi river it extended from the Balize up to the mouth of the Arkansas, where the village of Napoleon was severely scourged. On Red river it went as high as Shreeveport; on the Alabama river it went as high as Montgomery, the capital of the State. On the Tombigbee, as high as Demopolis. It extended to Pensacola, in Florida; to Galveston, Houston, Indianala, Victoria and other places in Texas. It prevailed terrifically in the village of Thibodauxville on Bayou Lafourche, and also in some of the towns over in Attakapas. But let us get through with the Epidemic in this city before adverting to its ravages in other places.

THE GENERAL CHARACTER OF THE DISEASE.

It seems to be generally conceded that the Yellow Fever of this year has been more malignant and unmanageable than any ever seen here before. Such at least is the opinion of the oldest practitioners with whom I have conversed, and I am quite confident it is true as far back as 1841.

The tendency to black vomit was more rapid, and there were more cases of this than usual. At the same time there were more *recoveries* from black vomit than was ever known before. This will be more particularly noticed under the head of *special observations.*

I think that *head-symptoms* were unusually severe and dangerous. Many died in delirium and convulsions.

I think that *suppression of urine* was much less frequently observed in dangerous cases than formerly.

Hemorrhages were exceedingly common, and often fatal. Many died of hemorrhage from the nose, gums and bowels. Drs. Kennedy and Henderson told me of a very clever young man who died

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of hemorrhage from the scrotum. Hemorrhage, however, was not always an unfavorable symptom; on the contrary, it often indicated the approach of a *salutary crisis*. Indeed, it is *the natural crisis of this type of fever when its course is not interrupted by art*. How often have I hailed with joy the appearance of a moderate hemorrhage from some *safe part*, as the nose, gums or uterus, in the critical stage of Yellow Fever, when it had been previously altogether uncertain how the case was going to terminate! At this stage of the disease, a small quantity of blood flowing spontaneously from any part except the *stomach* is most generally followed by the happiest effects, reducing any remaining febrile excitement and allaying nervous inquietude. When hemorrhage sets in, however, there's no telling how far it may go before it stops. Believing as I do that it is a *natural critical discharge in this type of fever*, I would recommend that no efforts be made to check it whilst it is *within the bounds of safety;* but when it seems to threaten life, we should then resort to astringents, styptics, stimulants and tonics.

Black vomit is nothing but a hemorrhage from the stomach, and may exist in any degree, from a few particles of blood mixed, as it were, into a quantity of light glairy fluid, presenting the appearance of floating dark specks or flœculi, to that of a rapid and profuse discharge of *pure red blood*. Before this discharge takes place in any degree there is great engorgement of the mucous membrane lining the stomach. The hemorrhage that then occurs is the effort of nature to relieve this engorgement; consequently, if the patient dies without throwing up much black vomit, we find the mucous membrane greatly engorged, thickened, and red or livid; whereas, if the hemorrhage had been *very profuse*, we find the mucous membrane after death pale and softened. Hence we may explain a fact that has been observed by many, viz., that *recovery is more apt to take place after free discharges of black vomit* than after *very slight*. The reason is obvious: in one instance nature effectually relieves the distressed organ by directly depleting its morbidly engorged blood-vessels; whilst in the other there is not a sufficient discharge to afford any relief.

When a patient is threatened with black vomit the great indication is, to remove that engorgement of the blood-vessels of the stomach which is its proximate cause; but of this I shall speak more fully when I come to the subject of *treatment*.

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Discharges of precisely the same nature as black vomit take place from the mucous membrane of the *bowels*, presenting the same shades of color, from a brown to a deep black, and onward to *pure blood*, according to the activity of the hemorrhage. This is an enlarged view of the true nature of black vomit, without being restricted to any *particular appearance* as alone characteristic of that discharge. If such a view had been taken by the intelligent physicians who saw the first cases that died of Yellow Fever at the Charity Hospital this year, we should not have had so much discussion as to whether the fluid found in the stomach was *too black* or *not black enough*, *too red* or *not red enough*, &c., to be *genuine black vomit*. If this term is to be restricted to *any special appearance* of the matters ejected from the stomach in fatal cases of Yellow Fever, I will venture to assert, that it cannot be shown in *a fifth part* of the cases. On the contrary, if it be used to designate *that critical hemorrhage* from the stomach and bowels of all shades and degrees, so often met with in fatal cases of Yellow Fever, then might we even go so far as to speak of a *white* black vomit. The rice-water discharges of Asiatic Cholera are admitted to be "*white hemorrhages*;" and Sir Henry Marsh, of Dublin, calls some dropsical effusions "*white hemorrhages;*" then why may we not have a whitish discharge from the stomach in Yellow Fever that is equivalent to the celebrated black vomit? In fact, *we do;* and I have often heard the remark made by physicians of the first respectability.

Black vomit and other hemorrhages rarely occur amongst full-blooded negroes, though I have heard of a number of cases this year, and had one myself. Mulattoes and Quadroons are almost as liable to them in Yellow Fever as white people, and quite a number have died of hemorrhages this year. This difference between the Black and Mulatto must proceed from the mixture of races.

Black vomit is quite common amongst white children with Yellow Fever, but they are far more apt to recover from it than adults. I shall say more of this in another place.

Black vomit is by no means *restricted to Yellow Fever*, but is occasionally met with in other diseases, such as dysentery, cancer of the stomach, and the state of pregnancy.

There were various rumors afloat that this was not *genuine Yellow Fever*, or such as has generally prevailed here before, but some-

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thing altogether different; some saying it was a "*modified typhus*," others that it was "a species of *plague*," whilst others again called it the "*African fever*." For myself, I saw no just grounds for any such distinctions. Whatever typhoid symptoms it presented are common in *prolonged cases* of Yellow Fever. I saw nothing at all resembling the descriptions of *plague;* and as for "*African fever*," I would like to know what is meant by the term. There is no part of Africa where so malignant a fever is generated as the Yellow Fever of America; and those who assert that this was an African fever, ought not only to point out its *distinguishing features*, but also show how it was introduced here. The truth is, the Epidemic was nothing but an uncommonly malignant Yellow Fever, presenting all the characteristic symptoms of that disease as it is generally seen here, but in a more virulent degree. No two Epidemics that ever occurred here were so precisely alike, but each differed from the other, and demanded some slight modifications of treatment to suit.

I deem it useless to give a general description of the symptoms of Yellow Fever, as they are to be found in all the works on the subject, though in the main they give a very imperfect idea of the disease. The general impression derived from reading descriptions of Yellow Fever is, that it is *a violent fever of a single paroxysm, lasting about seventy-two hours, and presenting strongly marked characteristic symptoms, by which it may readily be distinguished from all other types of fever*. I have not found it so; nor have I yet found the man who could always say correctly whether a case, examined *per se*, was Yellow Fever or not. I have already shown what differences of opinion were expressed about the first cases that appeared this year, and have only to add, that the same thing occurs here every year. The truth is, Yellow Fever is so closely allied to various remittent and intermittent fevers, that no uniform and reliable distinction can be drawn between them in the early stages, and the only way we get at the fact that Yellow Fever is prevailing, is by observing the *final results*, whether in *death* or *convalescence;* and the former is by far the most conclusive of the two. Even in such an epidemic as this, thousands of cases occurred which no one would have thought of calling *Yellow Fever*, if it had not been generally known that many of the same character and appearance had terminated in fatal black vomit.

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I need not say anything more about the general character of the disease this year, save that it presented every variety of aspect and type ever seen in Yellow Fever, from the mildest attack to the most violent, and showed such a tendency to death amongst *whites* who were for the first time exposed to it, as to demand the most prompt and judicious treatment.

On reflection, there is one other feature of this epidemic which is worthy of mention, and that is, *a tendency to relapse*, which presented itself in many instances. After the customary subsidence of the fever, at the end of the third day, there would be a period of calmness lasting from twenty-four to forty-eight hours, and then the fever would kindle up again, and last for one day or more. This secondary fever was often very dangerous, though it frequently terminated happily. The interval of convalescence after the first attack was sometimes so long, as to appear more like a *second attack* than a *relapse*. From two to four weeks have been known to elapse between two distinct attacks of the fever in the same person. Heretofore these relapses, or second attacks, were not at all common. On the 4th of November I was called on board a steamboat, to see a gentleman who had just come down from the village of Warrenton, situated on the river just below Vicksburg, where the Yellow Fever had been very bad. He said this was the fourth attack or relapse he had suffered since July. He died of black vomit on the 8th.

SPECIAL OBSERVATIONS.

Under this head I shall notice some particular points, such as *recoveries from black vomit*, *second attacks* of Yellow Fever, attacks upon *creoles* or natives, and attacks upon *negroes*.

1. *Recoveries from Black Vomit.*—When *well-marked black vomit* is presented in a case of Yellow Fever, I consider the chance of recovery as but little better than *one in a hundred;* yet I shall be able to show quite a respectable number of recoveries from this desperate condition this year. I had two in my private practice, and several in my wards at the Charity Hospital. One of my private cases was a little Irish girl, aged about eight years; the other was a *black negro woman*. One of my cases at the Hospital was a young Spaniard, whom I shall mention more particularly under the head of *treatment*. I also saw a mulatto boy, patient of Dr. Hes-

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ter, who threw up black vomit copiously during twenty-four hours, and recovered. The youngest subject of black vomit I ever saw, was a white infant aged *five weeks*, who was born after the epidemic broke out. It died, as did also the mother, who was unacclimated.

Dr. Boyer, resident surgeon of the *Maison de Santé*, informs me that there were *fifteen* recoveries from black vomit in that institution. Prof. Jones says he had *two* recoveries in private practice, and *eight* or *ten* at the Charity Hospital.

Dr. McKelvey says he had *three* recoveries in private practice, and some at the Charity Hospital.

Dr. Lindsay informs me he had six or seven recoveries from black vomit.

Dr. M. M. Dowler says he had four recoveries from black vomit —two women, one man and one child six years of age. Dr. D. never knew adults to recover from black vomit before, but has known several children.

Dr. Wedderburn says he had four or five recoveries from black vomit.

Dr. Rushton says he had two cases to recover from black vomit.

Dr. Choppin, House Surgeon of the Charity Hospital, gives it as his opinion that *seven per cent.* of the cases of black vomit in that institution recovered.

Notwithstanding all this testimony to the fact of recovery from black vomit, one of the most prominent physicians of the city, who has practiced here near twenty years, tells me he never knew a case of *unquestionable black vomit* in Yellow Fever get well.

I have only mentioned the names of such of my professional friends as I happened to meet with, whilst taking down these special observations. It will be the same with those to follow. I might enlarge them to any extent if I had time and space.

2. *Second Attacks of Yellow Fever.*—I mean by this, persons who have had the disease in former years. In my history of the Epidemic of 1847, I mentioned that several instances of this were observed, and the same has occurred this year. There can be no doubt that if a person have a plain attack of Yellow Fever during the prevalence of a *severe* epidemic, there will be but small probability of his ever having it again, provided he remains in the same place; yet the rule is by no means *invariable*, as I shall presently show. If one has it, however, during a *mild* epidemic, or when

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there are only a few sporadic cases, his subsequent exemption will not be near so great. Thus there were numerous attacks this year among persons who had had other attacks since 1847, but not many among those who had it that year, or any previous *strong* epidemic. I am satisfied that the correct doctrine on this point is laid down in my "Report on the Fevers of New Orleans." (*See Southern Medical Reports, vol.* 1.)

I saw no case this year which had been attacked in 1847, but several who had the disease well-marked in 1848 and subsequently.

Dr. Jones informs me that he saw one case in a person who had Yellow Fever in 1847, and one who had it in 1839.

Dr. Kennedy says he never attended a case of Yellow Fever in a person whom he had treated before for that disease. Dr. K.'s experience extends over a period of twenty years.

Dr. Lindsay tells me he treated this year at least a dozen cases who said they had had Yellow Fever before—some of them in 1847; but he cannot vouch for the accuracy of their statements. He had one case this year whom he treated last year in a well-marked attack. His last attack was mild, and only lasted two days.

Dr. Moses M. Dowler, who has practiced here seventeen years, says he never saw a second attack of Yellow Fever in a person whom he had himself attended, but a good many who said they had it the second time, and had been attended by others—he is disposed to believe that such instances have occurred.

Dr. W. Stone, and Dr. Sunderland also, say they never knew a second attack, and are disposed to doubt the testimony of those patients who told them they had the disease more than once. Both of these gentlemen are of opinion that second attacks of Yellow Fever are as rare as second attacks of small-pox or measles. Dr. Stone even goes so far as to think that *acclimation, once attained, is never lost by removal from localities where Yellow Fever prevails.*

It is needless to multiply quotations upon this point, as similar contradictory testimony and opinions might be obtained throughout the profession. The thing is at last reduced to *a matter of opinion*, and cannot be definitively settled. Those who have made up their minds that a person can have Yellow Fever *but once*, will not be convinced to the contrary *by any facts that can be presented*, and *vice versa.*

3. *Attacks upon Creoles or Natives of New Orleans.*—One of the

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most extraordinary features of this epidemic is presented in the fact that the natives of the city, *both white and colored*, have suffered severely, and many of them died of it. This is generally admitted, and beyond dispute. Children who were born since '47 have suffered most; but many born previous to that time likewise suffered, and some of them died of black vomit. I saw two Quadroon girls, sixteen and seventeen years of age, who were natives, and had never lived anywhere else—they had the fever severely, but recovered. A child, aged five years, in the same family, also had it. I attended a Quadroon boy, about eight years of age, who had a severe attack, attended with hemorrhage from the gums. I have already mentioned the case of a white infant only *five weeks old* that died of black vomit. It may be stated generally, that all children, and young persons in the city, who had never had Yellow Fever previously, were attacked this year. Of course there were some exceptions to this, as there are to every general rule.

I am informed that the Creoles on the coast, above and below the city, suffered much worse from Yellow Fever than those in the city, many adults having died of the disease.

4. *Attacks upon Negroes.*—This epidemic affected unacclimated negroes, or those who had never had Yellow Fever before, equally as generally as it did the white population, though not so severely. This is equally true of the mixed races generally. It is a well established fact that there is some thing in the negro constitution which affords him protection against the worst effects of Yellow Fever; but what it is I am unable to say. During an epidemic he will take the fever almost, if not fully as readily as the white, but it will be altogether milder and less dangerous in its tendency. In short, it will correspond more exactly with the bilious remittent fever that prevails in the country, and requires precisely the same treatment. And yet this type of fever in the city negro must be produced by the very same cause that gives rise to malignant Yellow Fever in the white race. Occasionally we see the hemorrhagic diathesis of Yellow Fever displayed in the negro, but it is by no means common. The least mixture of the *white race* with the *black* seems to increase the liability of the latter to the dangers of Yellow Fever; and the danger is in proportion to the amount of white blood in the mixture. Very few negroes ever die of Yellow Fever in this city; but I learn that a considerable number have

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been lost on the plantations this year. The cause of this may readily be imagined when it is recollected that Yellow Fever never prevailed on the plantations before, and of course most of the physicians were not familiar with its treatment.

I consider the danger to negroes from Yellow Fever to be no greater than that from *bilious fever* in the country, and *not half so great as from congestive intermittent.*

TREATMENT.

I feel quite at a loss as to what I should say upon this important branch of my subject. To go into a full consideration of all the various plans of treatment pursued by the physicians of New Orleans, would require more space than I should allow in a paper, which, I fear, many will think already *too long;* whilst, to confine my remarks merely *to my own method,* would, doubtless, fall far short of the reader's expectation. I do not claim to have discovered *the very best method* of treating Yellow Fever—one that is *superior to all others;* on the contrary, I doubt not that there are other methods pursued by some of the intelligent physicians of this city equally as successful, and, for the sake of humanity, I most heartily wish that all were more so. But when I look around me, and compare the results of my practice with that of others who pursue different methods, I find no reason to change my views, but much to convince me of their correctness.

In New Orleans may be seen the results of every imaginable course of treatment, from *doing nothing at all,* up to the use of *the most potent remedies in heroic doses;* and cases have recovered and died under all. Whilst many have, doubtless, been lost from *want of medical aid,* it cannot be denied that many have likewise died from *over-medication.* What is to be inferred from this great variety of treatment, but that *the true nature and proper management of Yellow Fever are not yet well understood by the mass of those who undertake to treat it?* I do not maintain that there is *but one proper method* of treating Yellow Fever as a distinct disease, or that *any single remedy is indispensable* to its cure; because the endless variety of persons liable to it, and the different aspects which the disease itself presents on different occasions, must necessarily require some modification of treatment; but I do think there ought to be a more uniform agreement among physicians as to the *patho-*

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logy of the disease, and the *general principles* which should govern its management. We doubtless have at command all the remedies that are necessary to the cure of Yellow Fever, when *it is* curable; but the thing is, to know which is best adapted to the purpose, and the principles which should govern their application. This must be learned by observing the action of remedies, and a careful study of the pathology or *true nature* of the disease. We must observe how it attacks, how it progresses from stage to stage, how it terminates—whether it be in *death* or *convalescence*. If in *death*, how does it stop the machinery of life? If in *recovery*, how is that recovery brought about? It is of vast importance to know what would be the course of this fever if left *entirely to nature*, without any medication whatever. This knowledge would not only aid us in the proper selection of remedies, but also teach us *when* we should aid the efforts of nature, and *when* withhold medicines altogether. The best medicines in the world, improperly given, may do harm. I mention these things merely to show the importance of understanding both the nature of the disease and the action of remedies.

Yellow Fever is a disease which does its work in a short time. All agree that whatever active or powerful remedies are to be used, should be applied *within twenty-four or thirty-six hours after the attack*. This is the stage, if any, for blood-letting, quinine purgatives, calomel, &c. But, if this opportunity be lost, the patient's main dependence for recovery must be upon the efforts of nature, aided by careful nursing, and the physician should then be extremely cautious in the prescription of medicines. At the *critical stage*, generally the end of *the third day*, when the fever goes off, the physician has an opportunity to display his best skill and judgment in its management. Many a patient has been lost by the slightest indiscretion at this stage, and many also from taking too much medicine. I have had many patients admitted into my wards at the Charity Hospital on the fourth day of sickness, having never taken a dose of medicine. I did not attempt to *cure* such cases, but left them almost entirely in the hands of nature, enjoining upon them not to rise from bed, opening the bowels by a mild enema, if costive, and ordering the body and extremities to be occasionally sponged with warm vinegar, or whiskey and water, if the skin was at all hot and dry. A number of these cases re-

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covered, and they were always peculiarly interesting to me, on account of the opportunities afforded of learning the natural course of this fever uninfluenced by medicines.

As the main object of this paper is to give a sort of historical narrative of the origin, progress, extent, and mortality of the great Epidemic which has so severely scourged our city, and the account is already drawn to so great a length, I deem it best not to enlarge it by a discussion of the debatable topic of *Treatment*. I could not do justice to this subject, without devoting at least ten or fifteen pages to its consideration, and therefore will defer it to a future period. As many of my professional readers, however, may expect me to say something about the "*abortive treatment*" of Yellow Fever, so highly extolled in some of my previous writings, I must not pass it by in silence.

In 1847, and ever since, till the present season, I have been able *promptly to cut short* nearly all the cases of Yellow Fever I was called to treat in this city; and there was but one year, (1851,) in which there was not a good deal of it to be treated. Several other highly intelligent physicians of this city have done the same. Our chief remedies for this purpose were large doses of quinine and opium, given at the onset of the fever. In reporting my satisfactory success with this treatment, I admitted that the disease treated, although certainly *Yellow Fever*, was of rather a milder type, and that it remained to be seen whether this abortive treatment would be equally successful in a more malignant epidemic. The opportunity has been presented this year, and I now must make a candid statement of the results of my experience.

When this epidemic broke out, I was one of the visiting physicians to the Charity Hospital, and soon had ample opportunities to test the abortive treatment by large doses of quinine and opium. It did very well in many cases where there was a *fair opportunity to apply it*, but I soon discovered that it did not display that controlling influence over this fever which it had done over all the Yellow Fever I had met with for six years previously. I then fell upon a more moderate use of the sulphate of quinine, and finally gave preference to the *Ferro-cyanuret*, in combination with blue mass, and without opium or morphine. I was pleased with the results, and pursued this course to the end of the epidemic.

I do not recollect to have treated any case of Yellow Fever

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without giving quinine in some form, and am willing to compare results with any physician in the city. I still believe it to be *one of the most*, if not *the most valuable* of all our remedies in Yellow Fever —in short, that it is just as valuable in this type of fever as it is in bilious remittent. Many physicians tell me they found the sulphate of quinine to fulfil their expectations this year as well as usual, whilst others report quite differently.

When this epidemic broke out, the sulphate of quinine was prescribed boldly, by perhaps a large majority of the physicians of New Orleans; but from *the injudicious use of it*, which fell under my own observation in the wards of the Charity Hospital, I soon foresaw and predicted the *disrepute* into which the remedy would inevitably be brought, if things went on in that way. My prediction was fulfilled. From the *abuse* of the remedy in the hands of many who knew not how to prescribe it judiciously, a popular prejudice rose up against it, and in the eyes of many it was brought into unmerited disgrace. But this has happened to almost every valuable remedy in the whole *Materia Medica*, and must continue to occur, as long as people will rashly venture to administer powerful medicines, who know little or nothing about medical science. Notwithstanding the obloquy which has been heaped upon this great and glorious remedy this year, it still maintains the high reputation it has long held amongst those physicians who have learned to prescribe it with judgment. If people expect to discover a *sovereign remedy* for *any special disease*—one that may be pitched into the human body without discrimination or judgment, wherever that disease is found, they are woefully mistaken. The *art of prescribing* medicines is of more importance to the community than the *real virtues* of the medicines; for the former is possessed by but few, whilst the drug stores abound in valuable remedies.

From all I have heard and seen, I am sure that no one can boast this year of the *extraordinary* success of his treatment, whether he used quinine or not, *calomel* or not, large quantities of medicine or *none at all.* Yet I would by no means wish to convey the idea that the success of the experienced physicians of New Orleans has not been highly commendable this year, considering the virulence and malignancy of the epidemic, and the numerous difficulties in the way of bad nursing, &c., they had to contend with. For myself, I will state conscientiously that I lost less than nine per cent. of my cases

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in private practice, to which I was called *in good time*, and had a *reasonably fair chance to treat;* and about 16 per cent. of the whole. I doubt not that many physicians met with equal, if not superior success, and under all the circumstances, I do not think it should be considered discreditable. If the same success had been attained by all the physicians of the city, our population would not have been *decimated* as it has been by this dreadful pestilence.

This is all I shall say at this time in respect to the treatment of Yellow Fever. I shall enlarge upon it at another time, but could not omit this occasion to say something in defence of a great remedy, which has been much abused and calumniated. There are men in all professions and pursuits who are ever ready to chime in with popular prejudice, and always trim their sails to suit the current of public opinion, without regard to the principles of truth and science.

There even be some who have such unbounded confidence in the *inherent and unerring wisdom of the People en masse*, as to maintain that they never fail to arrive at the most rational and correct conclusions upon all great questions, whether of Law, Politics, Religion, Science or Philosophy. If such persons would only look into the history of *popular delusions and errors* in regard to Medicine, and all that relates to the origin, spread and treatment of disease, they would surely abandon this eutopian idea. If the time ever come, which some predict, that *the People* shall take upon themselves to determine whether *quinine or any other medicine* shall be given in Yellow Fever or not, I cannot doubt that the results will be extremely unfortunate. The people may select their doctors, but they are compelled to intrust their lives to them when employed.

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FEVER STATISTICS.

In my previous memoranda frequent allusion was made to the various types or kinds of fever that were designated in the reports from the cemeteries during the prevalence of the epidemic. The following table will show the principal types of fever, that appeared in the *mortuary* reports of the Board of Health during the months of June, July, August and September.

FEVERS.	DEATHS.			
	June.	July.	August.	September.
Scarlet,	16	1	1	0
Typhoid,	13	29	18	8
Typhus,	15	3	17	4
Remittent Bilious,	17	14	9	2
Congestive,	12	24	20	8
Pernicious,	13	10	59	30
Cerebral,	6	6	22	0
Malignant,	1	6	5	3
Uncertain,	3	2	6	1
Intermittent,	1	7	8	1
Yellow,	46	1380	4797	722
Total,	143	1482	4962	779

Various names of fever found on the reports from the cemeteries, such as nervous, hectic, Chagres, putrid, ataxic, worm fever, &c., have been omitted, as the cases amount to but few.

From this table it will be seen that in the month of June the deaths from all the fevers specified amount to 143; of which Yellow Fever 46. In July, all fevers 1482, Yellow Fever 1380. In August, all fevers 4962, Yellow Fever 4797. In September, all fevers 779, Yellow Fever 722.

The total number of deaths from *all fevers* during these four months, as published, was 7472; of which 6945 died of Yellow Fever, and 527 died of other types.

I regret that the month of October could not be added to the above table, on account of the incompleteness of the returns.

From these *mortuary* statistics, it will be seen that during the reign of the *great epidemic*, which slew its thousands, people likewise died of *all sorts of fever*. The statistics of the *living*, which I shall now present from the Charity Hospital, also show a similar variety of fevers prevailing together, though in somewhat different proportions.

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TABLE, showing the number of patients *admitted* into the New Orleans Charity Hospital, for *all kinds of fevers*, during the months of June, July, August and September, 1853.

JUNE.

FEVERS.	ADMITTED.	DIED.
Intermittent, ...	314	1
Remittent.....	79	6
Continued, ...	11	1
Typhoid,.....	13	5
Typhus,.....	8	5
Congestive, ...	3	2
Ephemeral,.....	5	0
Pernicious.....	7	5
Scarlet.....	1	0
Yellow,.....	50	24
Totals,.....	486	49
All Diseases,.....	1127	118

JULY.

FEVERS.	ADMITTED.	DIED.
Intermittent	335	0
Remittent,.....	126	8
Continued, ...	6	1
Typhoid,.....	8	4
Typhus	2	1
Congestive, ...	4	4
Ephemeral,.....	10	7
Pernicious,.....	5	3
Yellow,.....	1157	620
Totals, ...	1653	648
All Diseases, ...	2096	719

AUGUST.

FEVERS.	ADMITTED.	DIED.
Intermittent, ...	181	2
Remittent, ...	15	0
Continued,.....	1	1
Typhoid,.....	2	0
Typhus,.....	0	0
Congestive, ...	4	3
Ephemeral, ...	11	0
Pernicious, ...	7	5
Yellow,.....	1495	941
Totals, ...	1716	952
All Diseases,.....	1940	1020

SEPTEMBER.

FEVERS.	ADMITTED.	DIED.
Intermittent.....	112	0
Remittent, ...	21	0
Continued.....	2	0
Typhoid,.....	2	3
Congestive, ...	6	5
Ephemeral,.....	15	0
Pernicious,.....	6	3
Hectic, ...	1	1
Yellow,.....	350	180
Totals, ...	515	192
All Diseases, ...	874	252

From this table it will be seen that there were admitted of *all diseases* during these four months, 6037 patients; of which 4370 were for *fever of all kinds*.

Of the 4370 fevers of all kinds admitted, 3052 were *Yellow Fever*, and 942 *intermittent*. The proportion of other types may be seen by a glance at the table. I must mention that the diagnosis of diseases at the Charity Hospital is not entered upon the tickets of patients as soon as they enter, as it should be, but is deferred till

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the patient either dies or is discharged. Thus the *admissions* in the above table are equivalent to so many *discharges*, though not exactly, for patients are often admitted for one disease, and discharged for another. One may enter with *intermittent*, and be discharged or die as *Yellow Fever*. For my purpose, however, which is to show the various types of fever that prevail at the same time, and the intimate relationship between them, the present system is best adapted, as it gives the last and principal disease for which the patient was treated. It is quite common to see these various types of fever interchange or run into each other, just as is seen in the country, where the intermittents and bilious remittents are supposed to originate from the same remote cause.

The number of Yellow Fever cases admitted into the Charity Hospital this year was not so great in any month as it was in 1847, whilst the proportion of intermittents was greater: thus in the month of August, 1847, the number of Yellow Fever cases admitted was 1611, and of intermittents 74 ; whilst in 1853, in August, the Yellow Fever cases were 1495, the intermittents 181. There would have been more admissions in 1853, but for the many temporary hospitals that were established by the Board of Health and the Howard Association, which greatly relieved the burthen of Charity Hospital. It would have been impossible for this institution to have received all the sick poor who usually resort to it.

There having been 3052 cases of Yellow Fever admitted into the Charity Hospital, and 1765 deaths during the four months stated, it follows that the mortality was 57½ *per cent.* Considering the malignancy of the Epidemic, and the late stages in which a majority of the cases were admitted, this rate of mortality is by no means discreditable. From a report to the Board of Administrators on the 1st of October, by the house surgeon, Dr. Choppin, I find the following items relative to *the length of time* the patients were sick previous to admission, in 1600 fatal cases :—

516	sick	1 day or less.
319	"	2 days.
242	"	3 "
206	"	4 "
76	"	5 "
38	"	6 and 7 days.
200	"	8 days.

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From this it is evident that *upwards of a thousand cases were admitted when the disease had already reached its second stage.* Dr. Choppin further states, that 168 of these cases were in *articulo mortis* when admitted. He estimates that about 7 per cent. of all the cases of *black vomit* in the hospital this year *recovered.* This, if true, is extraordinary.

Dr. Jewell, of Philadelphia, gives a table of 44 cases of Yellow Fever in that city last summer, which shows a mortality of 80 *per cent.* Of 11 cases treated in the Pennsylvania Hospital, 4 recovered. In the Blockley Hospital there were 3 cases and 1 recovery.*

It is difficult to draw anything like a fair comparison between the results of treatment in the Charity Hospital and in private practice, on account of the advanced stage of diseases in which most patients generally are when they apply for admission, especially in Yellow Fever and Cholera. For the latter disease they seldom apply until they are on the verge of collapse, and too often when perfectly hopeless. Fifty per cent. is about the general average of mortality from Yellow Fever at this hospital in epidemic seasons. Sometimes it is much greater.

I will now give such reports and statistics as I have been able to procure from the other hospitals, prisons, asylums, and benevolent societies in the city, and first

THE MAISON DE SANTÉ.

This was formerly Dr. Stone's private infirmary, but is now in the possession of the Sisters of Charity, who keep it in beautiful style. They employ Dr. Stone and Dr. Wedderstrandt as consulting surgeons, and Dr. Boyer as resident physician. We are indebted to the politeness of the latter gentleman for the following interesting report:—

"Dr. Fenner,

"Dear Sir—At your request I send you the number of admissions and deaths of Yellow Fever in the Maison de Santé, during the Epidemic of 1853. Very respectfully,

"P. C. Boyer, Resident Physician.

* Quarterly Summary of the Transactions of the College of Physicians of Philadelphia, October, 1853.

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"At the Maison de Santé, a private hospital under the charge of the Sisters of Charity, the first case of Yellow Fever was admitted on the 13th of July; from that time until the disappearance of the Epidemic the admissions of Yellow Fever amounted to 338, the deaths during the same time 97. Among the number discharged cured there were fifteen cases of black vomit.

"All the Sisters of Charity connected with this institution were unacclimated; three of the number recovered from Yellow Fever, the others passed through the Epidemic without being attacked.

"Maison de Santé, N. O., Nov. 11, 1853."

THE TOURO INFIRMARY.

This is a new hospital, which has been established within the last year or two, by the munificence of the venerable Mr. Touro, one of our oldest citizens, and one who has used his immense wealth more for the improvement of the city than perhaps any one who has ever lived here. The infirmary which has the honor of bearing his name is under the exclusive control of Dr. J. Bensadon, who has politely furnished me the following report on Yellow Fever:—

"Yellow Fever cases from July 1st to November 1st—

	Admitted.	Discharged.	Died.
Males	362	218	144
Females	161	92	69
Totals	523	310	213

"Three recovered from black vomit, 13 from hiccup and hemorrhage; 109 died with black vomit.

"Of the 213 deaths, 26 died within 10 hours after their admission; 38 within 24; and 24 within 48."

A large number of the Yellow Fever cases in this infirmary were sent there by the Howard Association and the Hebrew Benevolent Society. Under all the circumstances, I consider the success of Dr. Bensadon in the late Epidemic highly creditable. The infirmary is situated on Old Levee Street, just above St. Mary's Market.

CITY WORKHOUSE AND HOUSES OF REFUGE.

We are indebted to Dr. John F. Thorp, the attending physician,

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for the following reports of the *first ten cases* of Yellow Fever that occurred in each of these institutions.

CITY WORKHOUSE.

Situated on Hevia Street, in the back part of the city, parallel with the Charity Hospital. The inmates are chiefly males, condemned to work for short periods as punishment. Dr. Thorp gives the date of admission into the workhouse, the date of attack, and the results.

	Admitted.	Attacked.	Result.
Case 1	June 9th	June 29th	cured.
" 2	unknown	July 2d	"
" 3	May 10th	" 2d	"
" 4	June 18th	" 2d	"
" 5	unknown	" 2d	"
" 6	July 11th	" 12th	"
" 7	June 18th	" 13th	"
" 8	July 14th	" 15th	died.
" 9	June 9th	" 18th	"
" 10	July 2d	" 14th	cured.

Total number of cases treated in this place, 89. Deaths, 14.

BOYS' HOUSE OF REFUGE.

This institution adjoins the City Workhouse. The first case of Yellow Fever that occurred here was on the 22d of June, in a boy who had been in the House *one year*. The next five cases had also been confined there *one year*. There were 21 cases in all, of which 6 died.

GIRLS' HOUSE OF REFUGE.

Situated on Apollo Street, near Triton Walk.

The *first two cases* occurred on the 1st of July. There were 21 cases in all, of which only 1 died, and she a matron who had been in the House for several months. Dr. Thorp appends the following remarks about the cases in this institution :—

"These persons had all been in the Refuge for some months, and from this fact I believe the disease originated there; or rather that their isolated condition did not protect them from the general cause, or epidemic influence prevailing at the time. Both Houses of Refuge were in bad condition as to cleanliness."

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CITY PRISON, PARISH JAIL AND LUNATIC ASYLUM, AND BOYS' HOUSE OF REFUGE.

Dr. E. Sabatier is the city physician for the Second and Third Districts, and has charge of all these establishments. On account of recent bad health, Dr. S. cannot at this time furnish a full and minute account of the Yellow Fever at these places, but has kindly given me a few notes, which I deem worthy of insertion. There was more Yellow Fever in the City Jail and Parish Prison this year than was ever known before.

The first case occurred about the last of July, in a man who had been in the prison about three months, and had been treated for intermittent fever about two months previously. At the time above stated, he was taken out to court for trial, or something of the kind. Whilst there he was attacked with Yellow Fever, and had to be taken back to the prison. His attack proved a severe one, attended with hemorrhage and yellowness, but he finally recovered.

About a week afterwards another case occurred, in a man who had not nursed, or been about the first case. From this time cases continued to multiply till they reached the number of 30, of which 5 died. There were about 300 prisoners in the jail at this time, and there was free intercommunication amongst them; in short, they were kept together within very narrow limits. There were two rooms set apart for the hospital, in one of which the Yellow Fever patients were kept to themselves. Before this was done, however, several were attacked with Yellow Fever, who had been placed in hospital for other complaints. If the disease were really *infectious*, it appears strange that only 30 out of 300 should have taken it under such favorable circumstances for communication.

The *Lunatic Asylum* is a department of the Parish Prison, and is used chiefly as a temporary resort for lunatics previous to their being sent up to the State Asylum at Jackson. There were from 30 to 40 inmates during the summer, much crowded, no separate apartment for the sick. There were 9 cases of Yellow Fever amongst them, and no death. The first two cases occurred on the same day, (August 6th,) in persons who had been in only a few days. The next case occurred on the 10th of August, in a man who nursed the two first. There was then a lapse of nineteen days be-

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fore another case occurred. He had been in the Asylum ever since the 7th of January previous. The last case occurred on the 1st of October.

Most of the cases occurred in those who waited upon the sick, but they were all in such close quarters that there could not be much difference in the amount of intercourse.

The Boys' House of Refuge of the Third District is situated on the Gentilly road, quite in the country, about three miles from the city prison.

Dr. Sabatier says there was a good deal of Yellow Fever among the inhabitants around the Asylum, but *only one case* occurred in the Refuge.

PRIVATE INFIRMARIES OF THE BOARD OF HEALTH.

The Board of Health established four temporary hospitals during the worst of the Epidemic, one in each district of the city. I have before me reports from only two of them, viz., No. 1 and No. 4, which furnish the following statistics:—

No. 1 ..... received 343 cases, and lost 155.
No. 4 ..... received 432 cases, and lost 207.

I have not had time to collect any information from the other hospitals and asylums in the city.

HOWARD ASSOCIATION.

This far-famed Benevolent Association consists of but thirty members, is a chartered institution, and has been in existence ever since the year 1837. The officers are now preparing a full statement of its transactions during this memorable Epidemic, which will be published in pamphlet very soon. We are indebted to the kindness of Mr. Kursheedt, the Treasurer, and one of its most active members, for the following statistics, which could only be given approximatively at present.

From the 14th of July to the 1st of November, the Association took charge of 10,500 patients, of which about thirty per cent. died.

Total amount of donations received, about.....	$225,000
Amount expended in this city, about.....	140,000
" " in other places, about.....	20,000
Balance on hand, invested, about.....	66,000

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Its benevolent aid was extended to about twenty places in Louisiana, Mississippi, and Texas. About forty physicians enrolled their names, subject to call, soon after the Association offered its benevolent services to the indigent sick. Three of these physicians fell victims to the Epidemic, viz., Dr. Jacobson, late of St. Louis; Dr. Friend, late of Alabama, but originally of Petersburg, Va.; and Dr. Lucien Hensley, late of Frankfort, Ky., all most worthy and intelligent gentlemen. Peace to their *manes!* They fell in the *holy cause of suffering humanity*, and most probably will have no more durable monument to their memories than this brief notice of their untimely fate. Dr. Friend was a widower, of middle age, who had very recently settled amongst us, and has left a family of orphans, who, I hope and trust, may never suffer for want of that benevolence which he so liberally displayed while living.

The physicians of New Orleans attended a vast number of destitute sufferers in all parts of the city who had not called upon the Howard Association for relief, but their chief charity service was done at the great Charity Hospital, where, as has been shown, a small number of them attended *thousands of cases*, without one cent of pay. They were required by the administrators to visit the hospital every morning and evening during the Epidemic, and notwithstanding their pressing engagements in private practice, I believe most of them discharged their duty faithfully. There is, perhaps, no place in the world where more *charity service* is done by the medical profession than in New Orleans, and there is no other profession, or pursuit whose charities can be compared with it; but I am sorry to add, that I know of no place where these benevolent services are more lightly appreciated than here.

MORTALITY OF THE EPIDEMIC.

I shall now endeavor to give an *approximative* calculation of the deaths caused by this Epidemic in the five months, from the 1st of June to the 1st of November.

Months.	Total Deaths.	Yellow Fever.	Other Dis.	Not stated.
June	666	40	581	45
July	2077	1406	559	112
August	6235	5189	689	357
September	1681	1070	498	113
October	676	165	438	73
	11,335	7,870	2,765	700

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This table presents the deaths from Yellow Fever, as shown on the *burial certificates*. It is generally admitted that *six-sevenths* of the certificates in which the cause of death was *not stated* during the Epidemic should be added to the Yellow Fever list, which, being 600, would make that list amount to 8,470. Taking this as correct, and having *some certain data* to go by, we may now make an *approximative* calculation of the whole number of cases of Yellow Fever that occurred in the city during the five months above specified, and also the general rate of mortality for the whole.

	Cases.	Deaths.	Loss per cent
The Charity Hospital.....	3052	1765	56
Howard Association, about....	10500	3150	30
Maison de Santé	338	97	28
Touro Infirmary	523	213	40
City Workhouse, 1st Dist.....	89	14	15
Boys' House Refuge.....	21	6	28
Girls' House Refuge.....	21	1	5
City Prison, 2nd Dist.	30	5	16
Lunatic Asylum.....	9	0	0
Bd. of Health Infirmary, No. 1.	343	155	45
" " " No. 4.	432	207	48
Totals.....	15,858	5613	

We thus have 15,858 cases, with a loss of 5,613, which is at the rate of 35⅓ per cent., inasmuch as all these deaths were certified by physicians; when deducted from 7,870, the total of the same class. it leaves a balance of 2,257 deaths, to be distributed amongst other hospitals and infirmaries, asylums and private practice. If we consider these 2,257 deaths to be 20 per cent. of the whole number of cases treated in the last-mentioned quarters, it would show 11,285 cases, which, added to 15,858, the number of cases above ascertained, would give a probable grand total of 27,143 cases treated in the city during the time specified.

Estimating the probable population of the city at 100,000 during the Epidemic, it thus appears that upwards of *one-fourth* of them had the fever; and of those who were attacked, within a fraction of 29 per cent. died, being nearly 8 per cent. of the estimated population. Of course these results would have to be different if we either raise the amount estimated for the population, or add to

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the list of *certified deaths* by Yellow Fever, six-sevenths of those in which the cause of death was "*not stated*" during the prevalence of the Epidemic. Every other city or town visited by this Epidemic was at least *decimated*, and some of them more.

The great Epidemic of 1847 only caused about 3000 deaths in this city and Lafayette, which were then separate, but are now united.

Let us now review some of the prominent facts presented in the foregoing history of one of the most terrible pestilences that ever visited an unfortunate city.

1. We have shown that when this pestilence broke out, the condition of the city in respect to *cleanliness* was so bad as to be an object of *public notoriety*. Indeed it was in such a state, that if it had given rise to Egyptian Plague instead of Yellow Fever, it should not have surprised any one. The only surprising thing is, that with so much filth of all kinds as is always to be found in this city, we do not have an Epidemic every year. The fact that *we do not*, has even led to the public expression of the strange opinion, that the public filth of the city, instead of *originating* Yellow Fever, absolutely *protects* us from it in no small degree.

2. We have shown that Yellow Fever appeared much earlier this year than usual, and that the *first cases* occurred in persons who had been in the city but a few days, in one instance six days, and in another thirteen. These were unacclimated persons, who had just arrived from Europe, and came over in vessels direct from Liverpool and Bremen, without stopping at any place where Yellow Fever was prevailing.

3. We have shown that no vessel that arrived here from any *infected* port, whether in South America or the West Indies, brought any cases of Yellow Fever, had any on them whilst they were here, or gave rise to any cases previous to those which must have originated in this city.

4. That within a very few days after the occurrence of the first cases, others were seen in different and remote places, having no sort of connection or intercommunication that we were able to trace after a careful inquiry. That shortly afterwards other cases occurred in still more remote and separate localities, under like circumstances.

5. We have shown that the disease was the same that prevails

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here to a greater or less extent every year, differing only in the extraordinary degree of its malignancy.

6. We have shown that all the varieties of endemic fever which prevail throughout the southern country were seen here in the midst of the Epidemic Yellow Fever, and they were seen to interchange types just as is observed among the fevers of the country.

From these facts I am led to the inevitable conclusion, that the disease we have been considering originated from local causes existing in this city, aided by an extraordinary constitution or condition of the atmosphere at the time.

I am not prepared to maintain that the putrifying filth which is to be found to a great extent in this city at all times, is *the sole cause* of Yellow Fever ; for if it were, we should certainly have an Epidemic here every year : but I do believe it is almost a *sine qua non*, and that if it were effectually removed, and the whole city well paved, it would effect more towards *the prevention* of Yellow Fever here than anything that can be devised. This opinion is surely well supported by the established facts, that *Yellow Fever always breaks out and rages worst in the unpaved and least improved parts of the city*, whilst the *well-paved and best built portions generally suffer least from it.*

It is often stated and believed by many, that Yellow Fever always breaks out first amongst the shipping. *This is not true*, as I have repeatedly demonstrated in my previous writings on the subject. It is firmly believed by many persons that New Orleans is indebted to its naval intercourse with the West Indies, Vera Cruz, or Rio Janeiro, for all the Yellow Fever that is ever seen here. In opposition to this opinion stands the stubborn fact that this intercourse has been continued, with but slight interruption, for half a century past, whilst we have only had Epidemics of Yellow Fever on an average of about once in every three years. And, furthermore, I have, upon several occasions, carefully noted cases of this disease which were imported from Havana and Vera Cruz, and although they were placed in apartments where they were surrounded by persons who had never had Yellow Fever, I never knew the disease to be communicated in a single instance.

The great Epidemic of this year certainly broke out first in New Orleans, but the peculiar constitution of the atmosphere, upon which I must think it in a great measure depended, extended to a

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greater circumference than was ever known before in this region. Still it had its bounds ; and nearly all places within those boun which had local causes of disease capable of generating Yellow Fever, with the aid of this extraordinary constitution of the atmosphere, did have it. The range of this Yellow Fever atmosphere, although so wide, was as well defined as the narrow locality in the city of Philadelphia, in which the disease originated and was confined last summer.

I am not prepared to maintain that Yellow Fever is *never* communicated, *per se*, from person to person. On the contrary, I can readily conceive that, like cholera, typhus, and dysentery, it may sometimes display infectious or contagious properties to a limited extent. I have *never seen* an instance of the kind ; but cases have been reported to me, upon such *reliable testimony*, that I could see no other way of accounting for them than *direct communication*.

Admitting it as true, that Yellow Fever is capable of regenerating itself in the bodies of the sick, and of thus extending from person to person in close proximity, let us pause a moment and examine *the value* of this fact. At all the places where Yellow Fever prevails in the United States, it appears at *distinct intervals* of different lengths. It breaks out and rages for a season, disappears entirely, and after a lapse of time returns again. When it reappears, how often can it be traced, with *reasonable probability*, to infected vessels, goods, or persons? If this can be done in *a considerable majority* of instances, it will be sufficient to make *a rule ;* and the instances in which such a connection cannot be fairly traced, must be set down as *exceptions* to the rule. Now, I maintain, after careful observation of the outbreaks of Yellow Fever at New Orleans for the last twelve years, that no such connection could be reasonably traced in any instance. Nor has it been traced in a satisfactory manner in Mobile, Natchez, Vicksburg, or any other place in the United States, where this disease has often prevailed. Hence the *great majority* of the physicians, and others who have had the best opportunity of observing, have come to the conclusion, that Epidemics of Yellow Fever do not *usually*, if *ever*, originate from this source. This is also the uniform conclusion, with but *few exceptions*, of all those who have seen most of the disease in all parts of the world where it prevails, as any one can see who will examine the volumes of testimony that have been published on the subject.

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Again, Yellow Fever may be contracted in an infected district, and conveyed in the person of the sufferer to a place quite remote. In such instances, which are very frequent, and doubtless familiar to thousands of persons in this region, *how often* is it communicated to those who come in contact with it? I will venture to say, *not as often as once in fifty cases.* Many would say, not once in a hundred. Two highly intelligent gentlemen of Memphis have recently told me that probably not less than seventy-five cases of the malignant Yellow Fever of this year were landed from the steamboats at that place, and there died, or recovered without communicating the disease in a single instance. Dr. Jewell, of Philadelphia, informs us that eleven cases of Yellow Fever were admitted from the infected district into the Pennsylvania Hospital, and three into the Blockley Alms House; they were mixed promiscuously with other patients, yet the disease was not communicated in a single instance. Dr. Ball, of this city, who, on behalf of the Howard Association, visited the village of Providence when the Epidemic was at its worst, tells me of several instances in which the disease was taken back to the plantations without being communicated. I will not weary the reader with instances of the kind.

If, then, it be true that Yellow Fever is not communicated from one person to another by immediate presence or contact, independent of other influences, oftener than *once in fifty or a hundred exposures*, it would certainly make but a *rare exception* to a general rule; and this I believe to be about the true and real value of the now popular and warmly advocated doctrine of the *contagiousness of Yellow Fever.* It is equally applicable to *fomites* of all kinds.

I have now admitted, for the sake of argument, all that is contended for by the most strenuous advocates of contagion, and what does it amount to?—that Yellow Fever may be conveyed from place to place, in ships, goods and persons; and even be communicated to those who come in contact, yet *this effect is so seldom produced* as to make but *a rare exception to the general rule.* Now, does this afford sufficient inducement for the establishment of *Quarantine*, involving heavy expense, and throwing serious impediments in the way of commerce and travel? *That is the question!* and I only wish that the Legislature, who have to decide and act upon it, were as fully informed as they ought to be, as to all that has been done in regard to it within the last fifty years. France and England,

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two of the most enlightened and rigid governments in the world, after enforcing Quarantine against Yellow Fever for half a century, are now abandoning it as *useless*. The reports that have been made to them by the able men appointed to investigate the subject show most plainly that all that can be done, to either *check* or *prevent* the ravages of Yellow Fever, consists *in proper attention to cleanliness, ventilation and drainage.*

The numerous instances presented this year in which Yellow Fever appeared to be conveyed from place to place by means of persons, goods, or vessels, have led to the belief that the progress of this disease might be arrested by quarantine measures, and it is evident that the people of this city and state are bent on having the experiment tried. We sometimes need a quarantine station for other purposes, and it may not do a great deal of harm to try its efficacy in keeping off Yellow Fever; but of this I am by no means sure. I, for one, however, shall not object to the establishment of quarantine for the purpose of keeping off Yellow Fever, provided the *more rational and hopeful measures of protection be not neglected.* I mean such measures as belong to a strict and efficient sanitary police for the whole city. In a word, let the city be kept as clean as possible; let all putrifying filth be removed at a proper time, and dashed into the middle of the river; let the privies be so improved as to conduct their effluvia into the upper air; let there be no stagnant water on any vacant lot, nor under any house; suffer not the houses of the poor to be too much crowded with inmates; extend the pavement of the streets as fast and as far as possible; and last, though not least, let there be fresh water running from the river through all the cross streets of the city, back to Bayou St. John and the New Canal, for at least eight hours out of every twenty-four, the year round. All this would cost a great deal of money; but what if it does? We are infested with destructive evils which cannot be gotten rid of without the expenditure of money, and the use of great efforts besides. Is it not better to spend many thousands of dollars annually for the *preservation* of our people, than *millions*, as we do, for *attending them during sickness, and burying them when dead?* Some of our patriotic and spirited politicians have laid down the maxim—"*millions for defence, but not one cent for tribute.*" Let this maxim be *reversed*, and it is applicable to us. We vote almost *nothing for de-*

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fence, but *are compelled to pay millions as tribute to the King of Terrors.*

If I were asked whether, if all the sanitary measures I have pointed out, and others not mentioned, were adopted and strictly enforced, there would then be any *surety* that the city would be completely exempted from Yellow Fever, I could not answer positively in the affirmative; but I would say with confidence, judging from what has been accomplished in other places, and what we see in parts of our own city, that we might *reasonably expect at least a vast amelioration*—that we should have epidemics of all kinds *much less frequently, and less malignant* when they come.

We may look for much valuable information relative to the causes and contagiousness of Yellow Fever from the labors of the Sanitary Committee, who are actually engaged investigating those subjects throughout the whole region that was visited by the late Epidemic.

I must here close my remarks upon the great Epidemic which has so severely scourged our devoted city. If they serve to throw any light whatever upon the origin and true nature of the disease, or the best means that can be adopted for escaping it in future, I shall be amply rewarded for my well-meant though rudely-executed task. I have spoken to my fellow-citizens of New Orleans *plainly* and *independently*, as I think one should who is completely identified with them in whatever may befal the city, whether of *weal* or *woe*. I am not, and never expect to be, a candidate for any office within their gift, and therefore have no occasion either to flatter their pride, or to humor their prejudices. *Truth* has been the only object of my search, and I have published nothing but what I believe to be true. As an *independent voter*, I have the right to comment respectfully upon the conduct of all our public servants, and I do so when I think it proper. The celebrated Dr. Rush, of Philadelphia, a revolutionary patriot, and one of the greatest ornaments of the medical profession, maintained that "city authorities were justly chargeable with the lives of all who die of *preventable* diseases within their jurisdiction, and that they should be made responsible for the same before the courts of justice." This sentiment has been quoted with high commendation by the General Board of Health of England. If such were the law of this land, however, I should tremble for the fate of *our*

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worthy Mayor and Boards of Aldermen, if arraigned before the stern and inflexible Judge who at present presides over *the 1st District Court*.

I have found so much to say about the Epidemic in this city, that I have thought it best to reserve what I have ascertained in relation to its ravages in other places around. If this publication, however, should meet with sufficient encouragement, it will be followed by a second edition, which will contain full accounts of the Epidemic at all the places visited by it. The whole will form a component of a volume, comprising *a minute History of the Yellow Fever at New Orleans and the surrounding region, for the last twelve years*. It will contain the best essays that have appeared on the subject in this region.

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ADDENDUM.

After completing the foregoing history of the Epidemic at this place, I have thought it best to add the following extracts from "*The Second Report of the General Board of Health of England on Quarantine in Yellow Fever*," presented to both Houses of Parliament in April, 1852. With its appendices extending to 414 pages, it contains an extensive and searching inquiry into the subject, from authentic documents, received from all places where Yellow Fever has prevailed, both in America and Europe, and is signed by the Earl of Shaftesbury, Mr. Edwin Chadwick, and Dr. T. Southwood Smith. I must say that my humble observations fully confirm the remarks and conclusions of this learned and able commission.

After considering a great deal of testimony relative to the *localizing conditions which favor the origin and spread of Yellow Fever*, the Report says—

"We submit that the preceding evidence establishes a complete identity between the localizing conditions of Yellow Fever as they are found to exist within the Yellow Fever zone, and those of Cholera and other epidemic diseases over all the districts in which they prevail.

Medical authorities appear to be agreed that the conditions which have now been described, and the like, are not in a proper sense the causes of epidemic diseases, but rather the circumstances which determine the actual outbreak, spread, and intensity of such diseases when an epidemic influence is present. What that epidemic influence is, constituting the true material cause of any prevailing epidemic, the present state of medical science is unable to explain. The filthiest localities, the most crowded quarters and dormitories, are not at all times the seats of those particular forms of disease called "fevers," though the inhabitants are generally in a depressed state of health. Even in epidemic seasons some such places often escape. While cities and countries in a bad sanitary state are

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sometimes devastated by pestilence ; at other times, their sanitary state remaining unchanged, these same cities and countries continue free from pestilence for indefinite periods, the intervals occasionally numbering many years ; and then sometimes suddenly, but more frequently by slow and appreciable degrees, pestilence again returns and rages with its former fury. Why this is—why conditions which sometimes act so powerfully do not universally and invariably produce epidemic disease, is a problem yet to be solved. What is certain, however, and what is of the utmost practical importance is, that a bad sanitary condition is at all times attended with an excess of sickness and mortality, and that whenever epidemic diseases do prevail, they concentrate their violence in these unhealthy localities. Still the sanitary conditions, as far as is apparent, remaining the same, epidemics return only periodically. It has been generally inferred, therefore, that for the development of that extraordinary amount of the same kind of disease simultaneously amongst great numbers of the population which constitutes an epidemic, there must be, besides the known conditions, the presence of some other condition as yet unknown ; and hence these known conditions are commonly said to be not generating, but localizing causes ; the unknown or real causes being, in our ignorance of their true nature, compared to poison clouds which pass from city to city, and from country to country, bearing and scattering poison germs, the seeds of pestilence, for the development of which the localizing conditions that have been described afford the fitting and perhaps necessary nidus.

But there is another question of great importance on which medical opinion appears to be less unanimous ; namely, the extent to which filth, overcrowding, and decomposing organic matter or the like, may actually generate fever. Though it is generally agreed that these causes cannot of themselves produce such epidemics as those in question, yet the evidence is indubitable that they are capable, when concentrated, of generating individual and even numerous cases of fever of different types, and of the highest degree of malignity. Sir John Pringle and others state, with reference to bodies of men, that whenever wounded soldiers, with malignant sores or mortified limbs, were crowded together, or whenever only a few of such diseased persons were placed in a room with the sick from other diseases, for example, with those la-

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boring under intermittent and remittent fevers, a severe and mortal typhus quickly arose; nay, that whenever men previously in a state of sound health, were overcrowded in rooms without ventilation, typhus fever was sure to be produced.

From indubitable facts it is argued that we see at the present time the actual generation of typhus in a similar manner, constantly going on before our eyes. One of the physicians of the London Fever Hospital gives the following illustration of the facts:—

"A number of Irish arrive in London, and crowd together in the close, undrained and filthy courts in Gray's Inn Lane. They are healthy when they arrive from the country; there was no fever in the neighborhood when they came. Twenty or thirty persons occupy a room containing barely space enough for the healthy existence of four. All sorts of abominations accumulate around these overcrowded dwellings. In a few days typhus breaks out. During the spring of the present year, (1851) upwards of one hundred cases of typhus have been received into the London Fever Hospital from courts occupying one side only of Gray's Inn Lane. The disease has not spread to the other side of the street; it has not extended even to houses in the infected courts that are in a cleaner and less crowded state; the prevalence of the fever has been strictly limited to the houses and rooms in which the common localizing causes are very intense."

That Yellow Fever may be so produced, in the climate of Yellow Fever, is placed by every-day occurrences in those regions beyond the possibility of doubt. So much indeed is this the case, that a physician after many years' service between the tropics, gives the following receipt for the sure and rapid production of Yellow Fever:

"Take," says Dr. Bone, 'of soldiers lately arrived in the West Indies any number; place them in barracks in a low wet situation, or in the mouth of a gully, or on the brink of a dry river, or on the summit of a mountain, and to leeward of a swamp, or of uncleared ground, and where there is no water or only bad water; give them each only twenty-two inches of wall in their barrack room; let their barracks be built of boards or lath and plaster, and have neither galleries nor jalousied windows, but close window shutters, and a hole or cellar under the flooring for containing mud and stagnant water, and holes in the roof for the admission of rain, and

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the windows only eighteen inches from the floor, that they may be obliged to sleep in the draught of air; and let them have drill every morning on wet ground, and when fasting; guard mounting, and all kinds of fatigue not in the morning or evening, but during the hottest time of the day; when on sentry, no shed to keep off the direct rays of the sun; bad bread, putrid meat, few vegetables, plenty of new rum, especially in the morning; discipline enforced by terror and punishment, not by mind and prevention; an hospital similar to the barrack room, without offices, always crowded, plentifully supplied with rum, scantily with water, and so ill regulated that the men dread to enter it; a firm belief in the doctrine of contagion, and a horror of approaching any person affected with Yellow Fever. Let these directions be attended to in Trinidad, or even in Barbados, and especially when the air is stagnant, or charged with noxious vapors subsequent to long drought, the soldiers will soon die, some of them of Yellow, some of them with Black Vomit, and those first, in the rooms where these directions have been most carefully observed."

"It is proved by melancholy experience that when due care is not taken to prevent the concurrence of these and similar conditions, individual cases of Yellow Fever, in a Yellow Fever climate, may be as surely produced as cases of typhus among the Irish in the courts of Gray's Inn Lane and St. Giles's."

The following are the

Conclusions of the General Board of Health relative to Yellow Fever.

"From a consideration of the whole of the preceding evidence respecting Yellow Fever, we have arrived at the following conclusions:—

"1. That Yellow Fever Epidemics break out simultaneously in different and distant towns, and in different and distant parts of the same town, often under circumstances in which communication with infected persons is impossible.

"2. That Yellow Fever Epidemics are usually preceded by the occurrence of individual or sporadic cases of the disease, which sporadic cases are likewise common in seasons when no Epidemic prevails.

"3. The Yellow Fever Epidemics, though occasionally extend-

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ing over large tracts of country, are more frequently limited as to the space over which they spread, often not involving the whole of a town, and sometimes not even any considerable district of it.

"4. That Yellow Fever Epidemics do not spread from district to district by any rule of gradual progression, but often ravage certain localities, while they spare entirely, or visit very lightly, others in the immediate neighborhood, with which the inhabitants are in constant intercommunication.

"5. That Yellow Fever Epidemics, when they invade a district, do not spread from the houses first infected to the next, and thence to the adjoining, and thus extend as from a centre; but, on the contrary, are often confined to particular houses in a street, to particular houses on one side of a street, to particular rooms in the same house, and often even to particular rooms on the same story.

"6. That in general, when Yellow Fever breaks out in a family, only one or two individuals are attacked; commonly the attendants on the sick escape; and when several members of a family are successively attacked, or the attendants on the sick suffer, either the epidemic was general in the locality, or the individuals attacked had gone into an infected district.

"7. That when Yellow Fever is prevalent in a locality, the most rigid seclusion in that locality affords no protection from the disease.

"8. That, on the other hand, so great is the success attending the removal from an infected locality, and the dispersion of the sick in a healthy district, that by this measure alone the further progress of an epidemic is often arrested at once.

"9. That such dispersion of the sick is followed by no transmission of the disease, not even when the sick are placed in the wards of a hospital among patients laboring under other maladies.

"10. That no one of the preceding facts can be reconciled with any other conclusion than that, whatever may be the exciting cause of Yellow Fever, it is local or endemic in its origin: and the evidence of this conclusion is, therefore, cumulative.

"11. That the conditions which influence the localization of Yellow Fever are known, definite, and, to a great extent, removable; and are substantially the same as the localizing causes of Cholera, and of all other Epidemic diseases.

"12. That, as in the case of all other Epidemic diseases, in proportion as these localizing causes are removed or diminished, Yel-

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